UCLA

UNDERGRADUATE CATALOG 1980–81

UNIVERSITY OF CALIFORNIA, LOS ANGELES MAY 1980

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A Word from the Chancellor...

The University's motto, "Let There be Light," is nowhere better exemplified than in this publication.

Of all the functions the University performs, whether in the field of teaching, research or public service, nothing surpasses its obligation to offer student enlightenment in as many areas of human concern as resources permit.

In large universities like UCLA these offerings are extensive, as the several thousand courses listed in this catalog testify. This great diversity is the key to the important role played by the University in preparing effective citizens for a pluralistic society.

Making the best use of this unusual opportunity is the responsibility of the student. By choosing wisely from this wealth of academic offerings, you will not only prepare yourself for productive achievement but will enrich your intellectual life in many rewarding ways.

Charles E. Young

"Nothing is Too Wonderful to be True"

Faraday, inscription on Kinsey Hall

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The registered cable address of the University of California Los Angeles, is UCLA.

Other Information...

Other information about UCLA may be found in the announcements of the schools of Architecture and Urban Planning, Dentistry, Education, Engineering and Applied Science, Law, Library and Information Science, Management, Medicine, Nursing, Public Health, and Social Welfare; and in the announcement of the College of Fine Arts and The Graduate Catalog.

This book was produced by UCLA Publication Services Department. Contents co-ordinated by Patrick Murray. Edited by David Lees.

Please note

Every effort has been made to insure the accuracy of the information presented in the Undergraduate Catalog. However, all courses, course descriptions, instructor designations and curricular and degree requirements described herein are subject to change or deletion without notice. You may consult the appropriate department, school, college, or division mentioned in the Catalog for further information.

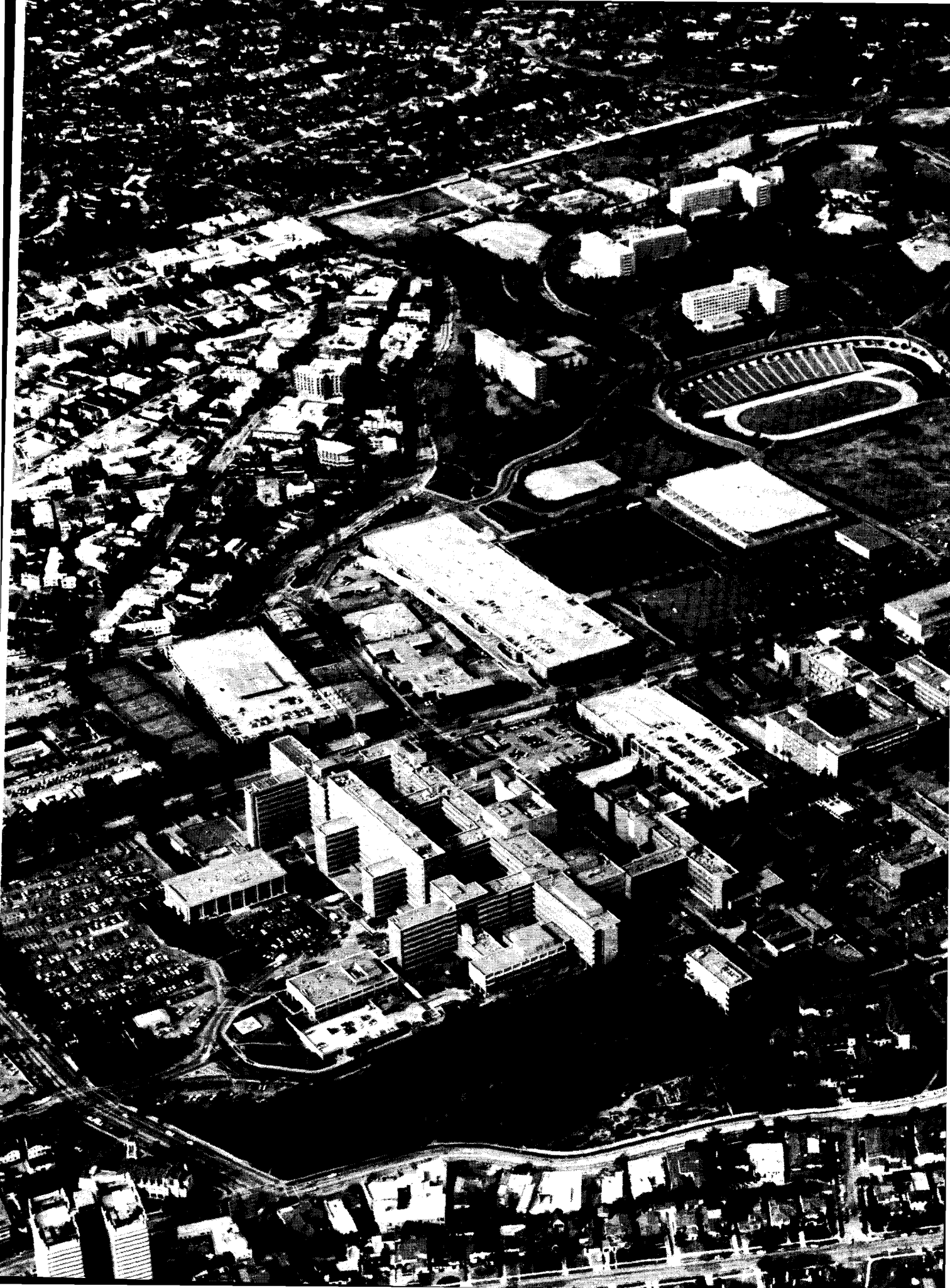
Contents

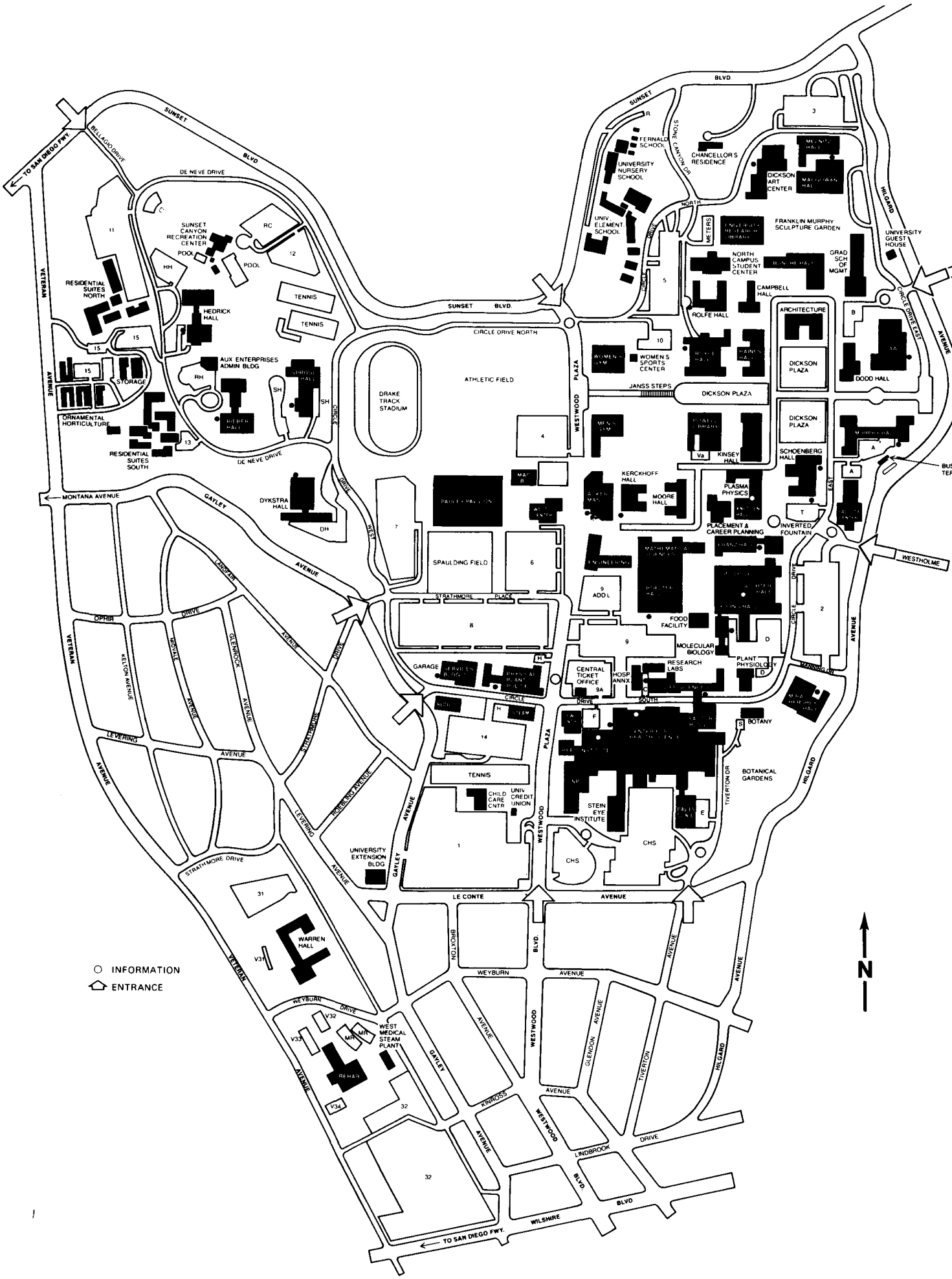
Calendar 1980-1981

	Fall '80	Winter '81	Spring '81
First day to file undergraduate application for Fall '81 with admissions officer, 1147 Murphy Hall, (last day will depend on number of applications received).	November 1, '80	July 1, '80 (open to intercampus transfers only)	October 3, '80
First day to obtain petition for campus parking permit at Campus Parking Service.	May 1	not appl	not appl
Schedule of Classes goes on sale at Main Cashier, 1125 Murphy Hall and Students' Store, Ackerman Union.	June 6	November 14	February 6
Distribution of registration materials for continuing students.	June 6	November 20	February 19
Eligibility date for New and Re-entrant student registration/enrollment by mail—Statement of Legal Residence and Statement of Intention to Register returned.	July 1	November 3	January 15
Academic counseling for new students is available by appointment.	July 2	November 4	January 16
*First mailing date for continuing student registration/ enrollment by mail.	July 18	November 21	February 20
Last day to file undergraduate application for readmission with Registrar, Window "A", Murphy Hall.	August 1	November 14	February 13
New and Re-entrant students eligible to register/enroll by mail should receive registration packet at permanent address.	August 15	November 3	March 2
*First mailing date for New and Re-entrant student registration/enrollment by mail.	August 20	December 5	March 4
*Last mailing date for ALL students to register/enroll by mail.	August 29	December 12	March 11
First day for UCLA Student Insurance enrollment.	August 8	December 1	March 23
*Registrar mails: 1. Validated Registration cards of Students who pay fees by mail. 2. Tentative Study List datamailer with results of pre-enrollment processing and undergraduate enrollment in person appointment.	September 10	December 23	March 20
English as a Second Language Placement Examination. (ESLPE)	September 16	January 6	March 31
Subject A English Placement Test.	September 16	January 5	March 26
Chemistry/Mathematics Preliminary Examination.	September 22	January 7	April 1
QUARTER BEGINS	September 23	January 7	April 1
Registration in person, 8:00 am to 3:30 pm.	September 23-26	January 7-9	April 1-3
Financial Aid check distribution to registered students begins.	September 23	January 7	April 1
Undergraduate enrollment in person by appointment.	September 23-26	January 7-9	April 1-3
Spanish and Portuguese Placement Examination.	**March 28, '80 or September 26, '80	**September 26, '80 or January 9, '81	**January 9, '81 or April 3, '81
French Placement Examination.	September 24	January 9	April 3
Proficiency Examinations for English 3.	September 26	January 9	April 3
Instruction begins.	September 29	January 12	April 6
Late registration in person with $25 late fee, 10:00 am to 4:00 pm.	September 29-October 10	January 12-23	April 6-April 17
Changes in study list without fee, 8:30 am to 4:30 pm.	September 29-October 10	January 12-23	April 6-April 17

	Fall '80	Winter '81	Spring '81
Last day to:	October 10	January 23	April 17
1. File Study List Card without fee.			
2. Change Study List (add, drop) without fee.			
3. Register in person with $25 late fee.			
Registrar mails official Study List to all registered students; if not received in ten days, inquire at 1134 Murphy Hall.	October 13	January 26	April 20
Last day to (WITH APPROVAL OF ACADEMIC DEAN).	October 24	February 6	May 1
1. File Study List Card with $10 fee.			
2. Add courses to official study list, change grading basis and/or credit with $3 petition fee.			
3. Drop courses from study list with $3 petition fee.			
Last day to file (without fee) bachelor's Degree Candidate Card with Registrar, Window "A", Murphy Hall.	October 24	February 6	May 1
Last day for UCLA Student Insurance enrollment.	October 10	January 23	April 17
Last day to file removal of incomplete petition ($5 fee) with Registrar, Window "A", Murphy Hall.	November 7	February 20	May 15
Last day to file (with $3 fee) bachelor's Degree Candidate Card with Registrar, Window "A", Murphy Hall.	November 14	February 27	May 22
Instruction ends.	December 6	March 21	June 13
Final examinations.	December 8-12	March 23-27	June 15-19
Quarter ends.	December 12	March 27	June 19
Last day for continuing students to file applications for undergraduate scholarships for 1981-1982		February 28	
Unofficial copy of quarterly grades available at Registrar's Window "A", Murphy Hall.	February 2	May 1	August 3
Academic and Administrative Holidays:	July 4 September 1 November 27-28 December 25-26 January 1-2	February 16 March 30	May 25
Commencement.			June 21

*Tentative dates—consult quarterly Schedule of Classes
**The first date listed for the Placement Test is offered as an option to those students who wish to pre-enroll and who, therefore, need to know in advance where they place.
Note: Anything submitted or requested as an exception to a published deadline will be subject to an additional penalty fee of $10.00.




TO SAN DIEGO FWY.
BELLAGIO DRIVE
SUNSET BLVD
DE NEVE DRIVE
VETERAN AVENUE
RESIDENTIAL SUITES NORTH
SUNSET CANYON RECREATION CENTER
RC
POOL
HH
HEDRICK HALL
TENNIS
AUX ENTERPRISES ADMIN BLDG
RH
SH
STORAGE
ORNAMENTAL HORTICULTURE
RESIDENTIAL SUITES SOUTH
DYKSTRA HALL
DH
MONTANA AVENUE
GAYLEY AVENUE
DROPPIN DRIVE
OPHIR DRIVE
KELTON AVENUE
WESTHOLME AVENUE
GLENROCK AVENUE
LEVERING AVENUE
STRATHMORE DRIVE
STRATHMORE PLACE
SPAULDING FIELD
DRAKE TRACK STADIUM
ATHLETIC FIELD
CIRCLE DRIVE NORTH
SUNSET BLVD
WESTWOOD PLAZA
JANSS STEPS
DICKSON PLAZA
WOMEN'S SPORTS CENTER
KERCKHOFF HALL
MOORE HALL
PLASMA PHYSICS
KINSEY HALL
SCHOENBERG HALL
PLACEMENT & CAREER PLANNING
INVERTED FOUNTAIN
FOOD FACILITY
MOLECULAR BIOLOGY
RESEARCH LABS
PLANT PHYSIOLOGY
CENTRAL TICKET OFFICE
HOSP ANNX
GARAGE
BOTANY
BOTANICAL GARDENS
TIVERTON DR
HILGARD AVENUE
MANNING AVE
CHILD CARE CNTR
UNIV CREDIT UNION
STEIN EYE INSTITUTE
CHS
UNIVERSITY EXTENSION BLDG
LE CONTE AVENUE
WARREN HALL
WEYBURN AVENUE
BROXTON AVENUE
WEST MEDICAL STEAM PLANT
KINROSS AVENUE
LINDBROOK DRIVE
WILSHIRE BLVD
TO SAN DIEGO FWY.
FERNALD SCHOOL
UNIVERSITY NURSERY SCHOOL
UNIV ELEMENT SCHOOL
CHANCELLOR'S RESIDENCE
STONE CANYON DR
DICKSON ART CENTER
FRANKLIN MURPHY SCULPTURE GARDEN
UNIVERSITY GUEST HOUSE
NORTH CAMPUS STUDENT CENTER
GRAD SCH OF MGMT
CAMPBELL HALL
ROLFE HALL
ARCHITECTURE
DODD HALL
CIRCLE DRIVE EAST
HILGARD AVENUE
WESTHOLME
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INFORMATION
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UCLA

A Mutual Obligation

The UCLA Undergraduate Catalog has one basic job to do: communicate. Like any communication, it works in two directions. These pages describe the workings of an undergraduate education at UCLA and your responsibilities towards the rules, regulations and requirements that are relevant to your individual situation. But this edition of the UCLA Undergraduate Catalog also spells out the responsibilities which UCLA has towards you. It's a matter of mutual obligation. The UCLA Undergraduate Catalog is a guidebook to the details of that mutual obligation for undergraduate UCLA students. (Graduate students, or undergraduates interested in graduate study at UCLA can get a copy of the UCLA Graduate Catalog in the ASUCLA Students' Store.)

Like any other guidebook, the UCLA Undergraduate Catalog is designed to be referred to often and, like any other guidebook, its worth to you depends directly on how often you use it. And, it seems to be a good idea to use it fairly often. Counselors in the College of Letters and Science report that nearly half of the people who ask them for help have never read the General Catalog.

How To Use This Book

As you can see, the UCLA Undergraduate Catalog is divided into sections. Each section is flagged with a generalized description of the field of information it contains; for example, "money" or "College of Letters and Science." Headlines within each section narrow down just what aspect of the section is being discussed; topic headlines, like "How To Use This Book" above, identify detailed information. You will also find a table of contents at the beginning of the Catalog which highlights information in each section; there is an index at the back of the book.

In addition, the information in the Undergraduate Catalog has been cross-referenced in two ways wherever possible. You are directed to other sections of the Catalog at the conclusion of some informational sections. In others, the heading "Need to Know More?" lists publications, departments—or people—to contact for more information.

Finally, the sections dealing with "recreation and participation" as well as "resources" are designed to reflect another way in which the catalog is a guidebook—a guidebook to working with all of the available resources at UCLA to get the most from the experiences life at UCLA offers to you as an undergraduate student.

About UCLA

UCLA has come a long way since it moved from its first home on Vermont Avenue to a campus in the middle of what was then some beanfields out in Westwood.

Back in 1919, when UCLA had its beginnings at the State Normal School on Vermont Avenue downtown, they called it "The Southern Branch" of the University of California at Berkeley. Then came the 1929 move to Westwood. UCLA started growing, on a site that began at 383 acres and then grew to its present 411-acre parcel.

UCLA hasn't stopped growing since. Just a look at the numbers can be staggering: 13 schools and colleges, 170 departments of instruction, 24 research institutes and centers, 18 libraries, 20,000 undergraduates, 11,000 graduate students.

But, there is another kind of growth that is part of the UCLA tradition. Growth that transforms those numbers into the fabric and feel of UCLA.

It's a growth in excellence.

Excellence not only in facilities, but in people. UCLA is consistently rated among the top 10 universities in the country. UCLA professors have won Nobel Prizes, National Academy of Science memberships, Oscars, and Emmys, while its teams have won a collection of NCAA championships in almost every field of men's or women's competition. UCLA has done more than face up to the complex challenge of offering excellence in education. As a public University—a public trust—UCLA also meets a daily committment to service. The spectrum of contributions UCLA has made in research and scholarship, science and the arts, touches the lives of people every day.

Part of a Plan

UCLA is part of the nine-campus University of California statewide system, a network of resources for knowledge that literally spans the state with field stations, extension centers and other facilities in more than 80 locations throughout California.

The system as a whole is governed by the Board of Regents, who in turn appoint the President of the University, its chief executive officer. Currently the President of the University is David S. Saxon, a former faculty member at UCLA, who also held the post of Executive Vice-Chancellor here. In addition to mapping out budgetary policy and setting the yearly agenda of objectives for the University of California system, the Board of Regents also appoints (with the advice of Dr. Saxon) Chancellors, Directors and Deans for each campus. The Academic Senate, made up of the faculty and designated administrative officers, sets the conditions for admission and makes rules for the granting of degrees and certificates.

A City Within a City

Another factor that contributes to the climate of excellence at UCLA is diversity.

The location of UCLA offers a collection of contrasts. Set in an urban environment, the University is ten minutes away by car from either the Santa Monica Mountains or the Pacific Ocean. On campus, concrete co-exists with open green areas.

Our faculty and student body represent a diversity of backgrounds and personal experience, a blend which helps to support an institutional attitude of personal exploration and individual growth.

UCLA and You

You will find that the combination of size and diversity at UCLA presents a final set of mutual obligations. UCLA offers unmatched opportunities, but the responsibility to seek out those opportunities rests with you.

undergraduate education at UCLA

Before You Begin

Nothing at UCLA will have a more direct effect on your daily life than your academic program. Together its components make up the content—and the quality—of your education here.

So, decisions about your academic program must be made carefully.

This section describes the three undergraduate colleges and schools at UCLA: Letters and Science, The School of Engineering and Applied Sciences and the College of Fine Arts. Regardless of the field of study you decide to follow, your academic life will be governed by one of the colleges or schools.

At UCLA you can also choose how much help—or how little—you want in planning your program. The section of this book titled "resources to help you" offers a description of offices and people who can help you with your academic program; the last page of this section provides a list of publications that do the same.

What is a Major?

Basically, a major is the label you put on your central area of academic interest. The factors that go into selecting a major are determined by the person who is doing the selecting—you. You should consider your current interests, your future plans, and your curiosity about a particular aspect of knowledge.

Additionally, carefully consider and evaluate general college or school requirements, the description of the set of courses offered in the major (you can find those descriptions in the "courses" section of this Catalog), and the requirements each department has for completing the program of study.

Lastly, all of these factors should be evaluated against the background of other time commitments—job, personal responsibilities—if you are to make an intelligent decision.

Exploring Majors

It isn't necessary to declare your major in your freshman year—unless you are in the College of Fine Arts.

Many students prefer to explore the diversity of subjects and study areas at UCLA, many of which you may never have had a chance to investigate before.

But, keep in mind that certain majors, especially in the sciences, require early declaration. Some have enrollment quotas and will allow application by new majors only during a specified quarter.

Don't lose sight of the fact, either, that each UCLA undergraduate student is limited to a total of 208 units—unless you are in The School of Engineering and Applied Sciences—to complete the academic program. So, if you wait to declare a major, don't wait too long.

A good way to explore majors is to check out introductory courses. In most departments, these are the classes with the course number designations less than 100. They are a general introduction to the field of study; they give an idea of the vocabulary of the major, and they preview the kind of questions studied in the field.

If You've Already Chosen

Naturally, if you have already decided on a major, you will begin taking the courses that are required to complete that major.

A Final First Word

Again, the specific major requirements are discussed in two sections in this book: under each college or school and in the description of each major in the "courses" section. The college or school make the rules governing your major; these rules vary with each school or college.

UCLA Grading Regulations

Grades in courses (graduate or undergraduate) are defined as follows: "A", excellent; "B", good; "C", fair; "D", poor "F", failure; "IP", in progress; and "I", undetermined (work of passing quality but incomplete). The grade DR (deferred report) is entered on the student's record: a) when, to the faculty member's knowledge, the student's work in the course is complete, but the faculty member is not able to assign a grade; or b) when disciplinary proceedings are in progress. The designations "P", passed, and "NP", not passed, are used in reporting grades for undergraduate students taking courses on a passed/not passed basis.

Grades "A", "B", "C", "D" (including plus or minus notations where authorized), "F", "P", "NP" are final when filed by an instructor in his end-of-quarter course report, except for the correction of a clerical or procedural error. No term grade except incomplete may be revised by reexamination.

A-306 General

a. The Schools of Dentistry, Medicine, and Law shall develop their own grading codes for their respective professional programs and these programs are therefore excepted from the provisions of this grading code.

b. The instructor in charge of a course shall be responsible for determining the grade of each student in the course. The standards for evaluating student performance shall be based upon the course description as approved by the appropriate course committee.

c. The final grade in the course shall be based upon the instructor's evaluation of the student's achievement in the course. When on an examination or other work submitted by a student, the student is suspected of having engaged in plagiarism or otherwise having cheated, the suspected infraction is to be reported to the appropriate administrative office of the University for consideration of disciplinary proceedings against the student. Until such proceedings, if any, have been completed, the grade DR (deferred report) shall be assigned for that course. (See Senate Divisional Regulation A-315.) If in such disciplinary proceedings, it is determined that the student did engage in plagiarism or otherwise cheat, the administrative officer, in addition to imposing any discipline, shall report back to the instructor of the course involved, the nature of the plagiarism or cheating. In light of that report, the instructor may replace the grade DR with a final grade that reflects an evaluation of that which may fairly be designated as the student's own achievement in the course as distinguished from any achievement that resulted from plagiarism or cheating.

d. If an instructor in charge of a course has been determined by the Committee on Privilege and Tenure to have assigned a grade on any basis other than academic grounds, the Committee on Privilege and Tenure shall communicate that information to the Division Chairman. Within a period of two weeks after notification, guided by the Committee or Committees, the Division Chairman shall establish an ad hoc committee to determine whether the grade shall be changed. The ad hoc committee shall consist of at least three members, with at least one member a representative of the department involved. The ad hoc committee will obtain whatever records are available and use these records to make a final decision concerning the grade. If the records are not adequate, then the committee may assign a grade of Pass, or allow the student to repeat the course without penalty. The ad hoc committee will report to the Division Chairman, who shall report the change of grade to the Registrar. To protect the student, the grade shall be changed, if warranted, within four weeks following information of the ad hoc committee.

A-307 Grading of Undergraduate Students

a. The level of achievement of all undergraduate students shall be designated in the following terms: A (superior), B (good), C (fair), D (poor), F (fail), I (incomplete), IP (in progress), P (passed), NP (not passed), DR (deferred report). The passing grade A may be modified by a minus (−) suffix. The passing grades B, C and D may be modified by plus (+) or minus (−) suffixes.

b. Grade points per unit shall be assigned by the Registrar as follows: A-4, B-3, C-2, D-1, F-zero. "Plus" grades carry three-tenths grade point more per unit and "minus" grades carry three-tenths grade point less per unit than unsuffixed grades. Subject to the provisions of Senate Regulation 634, courses in which a student receives a P grade shall be counted in satisfaction of degree requirements, but courses in which either a P, NP, DR, I or IP has been awarded shall be disregarded in determining a student's grade point average.

c. The grades A, B, C, and P denote satisfactory progress toward a degree. The D grade denotes progress toward a degree but as stipulated in Divisional Senate Regulation A-304 such a grade must be offset by higher grades

A-308 Grading of Graduate Students

Please refer to the Graduate Catalog.

A-309 The I Grade

a. The grade I may be assigned when a student's work is of passing quality, but is incomplete. The grade I shall only be assigned when the student establishes to the instructor's satisfaction that his work is incomplete for a good cause. For the grade I to be eligible to be replaced by a passing grade, the student must submit, and the instructor must complete, a "Petition for the Granting of the Grade I" which will contain both the reason for granting I and the conditions to be met before the grade I can be replaced by a passing grade.

b. The student is entitled to have the grade I replaced by a passing grade and to receive unit credit and grade points provided he satisfactorily completes the work of the course by the end of the next full term that he is in residence in regular session following the term in which the I was received. The dean of the appropriate school or college has authority to extend the deadline for completion in the event of unusual circumstances that would clearly impose an unfair hardship on the student if the original deadline were maintained.

c. If the work is not completed according to the provisions of Senate Divisional Regulation 309 (B), the grade I shall automatically be replaced with F, NP or U as appropriate.

A-310 The P and NP Grades for Undergraduate Students

a. Subject to the limitations in (C) and (D) below, an undergraduate student in good standing may enroll in one course each term on a P/NP basis.

b. A grade of P shall be awarded only for work which would otherwise receive a grade of C or better.

b. A student who has received two NP grades shall be excluded from enrolling in a course on a P/NP basis for the next term in residence.

d. A department or school may designate any course or courses as courses not to be taken by its major on a P/NP basis, and may at its option require a student, who has received a P in such a course before entering a major, to repeat the course for a letter grade.

e. A student who has not elected the P/NP option in a preceding term may take two courses P/NP.

f. The Council on Educational Development and the Committee on Undergraduate Courses and Curricula may authorize exceptions to (A) and (E) above when they would be inconsistent with the purpose or design of experimental courses or programs which these committees may approve.

A-312 The IP Grade for Undergraduate Students

a. For courses authorized to extend over more than one quarter and where evaluation of the student's performance is deferred until the end of the final term, a provisional grade of IP (in progress) shall be assigned in the intervening term(s). The provisional grade shall be replaced by the final grade if the student completes the full sequence. The Faculty of each school or college and the Graduate Council are authorized to regulate the award of credit in cases where the full sequence is not completed.

b. Authorization for use of IP grades in undergraduate courses shall be by the Committee on Undergraduate Courses and Curricula.

A-313 Correction of Grades

All grades, except DR, *I* and *IP* are final when filed by an instructor in the end-of-term course report. However, the Registrar is authorized to change a final grade:

a. Upon written request of an instructor, provided that a clerical or procedural error is the reason for the change; or

b. Upon written request of the Chairman of the Division in cases where it has been determined by the Committee on Privilege and Tenure that an instructor has assigned a grade on any basis other than academic grounds. No change of grade may be made on the basis of reexamination or, with the exception of the I and IP grades, the completion of additional work. Any grade change request made more than one year after the original filing must be validated for authenticity of the instructor's signature by the department chairman. Any grade change request made by an instructor who has left the University must be countersigned by the department chairman.

A-314 Repetition of Courses

Repetition of courses other than those authorized by the Committee on Undergraduate Courses and Curricula or the Graduate Council to be taken more than once for credit, is subject to the following conditions:

a. A student may repeat only those courses in which he received a grade of D, F, NP or U. Courses in which a grade of D or F has been received may not be repeated on a P/NP or S/U basis.

b. Repetition of a course more than once requires approval by the appropriate dean in all instances.

c. Degree credit for a course will be given only once, but the grade assigned at each enrollment shall be permanently recorded.

d. In computing the grade point average of an undergraduate who repeats courses in which he received a D or F, only the most recently earned grades and grade points shall be used for first 16 units repeated. In the case of further repetitions, the grade point average shall be based on all grades assigned and total units attempted.

A-315 The DR Grade

The grade DR (Deferred Report) shall be entered on the student's record:

a. When, to the faculty member's knowledge, the student's work in the course is complete, but the faculty member is not able to assign a grade; or

b. When disciplinary proceedings are in process according to the provisions of Divisional Regulation A-306 (C).

The DR shall not itself be calculated in any way in the student's grade point average. The DR shall be changed to a grade, or perhaps to an Incomplete, only when the Registrar receives a written request from the instructor which indicates that the student has clarified the situation.

The report of the grade DR must be accompanied by a letter from the instructor to the dean of the school or college and to the student stating the basis for the action. For students enrolled in a course approved by the Graduate Council, the Dean of the Graduate Division is the dean of Record. For students in a course approved by any undergraduate course committee, the dean of record is the dean of the College or School in which the course is offered. The dean shall establish a date or a specific circumstance terminating the period of the Deferral of Report and inform the Registrar, the instructor and the student. Unless changed by the instructor as specified in the preceding paragraph, the DR shall then automatically become F.

A-320 Special Studies Courses

a. All special individual studies courses for undergraduate students are numbered 199. These courses are structured by the instructor and the student at the time they are initiated. The structure of the course, including both the specific proposed course of study and the requirements that must be met before a grade can be assigned, are then summarized on the standard form "Petition for Enrollment in a Special Studies Course (199)."

b. To register for a special studies course, the "Petition for Enrollment in a Special Studies Course (199)" must be approved both by the instructor in charge and the Chairman of the department (or the head of the relevant interdisciplinary program).

c. Limitations

1) Enrollment requires the consent of the instructor who is to supervise the study. The applicant shall show that his background is adequate for the proposed study.

2) Credit for supervised individual studies in a single term is limited to a maximum of 8 units. Subject to the provisions of Divisional Regulation A310, the student may take a 199 course on a *Passed/Not Passed* or a letter grade basis, but the total number of units allowed in individual study courses for a letter grade is 16.

3) At the close of the term, some tangible evidence of work accomplished, signed by the student and the supervising faculty member, shall be filed by the department for an appropriate period of time. The department shall designate the form of the evidence acceptable for this purpose.

4) At the outset of a special studies course (199) the student must complete, and the instructor must sign, a "Petition for Enrollment in a Special Studies Course (199)," which will include the specific proposed course of study and the requirements to be met before a grade can be assigned. The form must have been completed and submitted before a grade can be assigned in the course.

5) To register for 199 and/or 199H, a student must have advanced Junior standing and at least a 3.0 GPA in his/her major field, or he/she must have Senior standing.

6) A student who has an outstanding incomplete in 199 or 199H may not register for another 199 or 199H until the grade of incomplete has been removed.

7) On the advice of the instructor(s) and chairman concerned, the dean of a student's college or school may authorize exceptions to the limitations listed.

8) Departments may impose additional limitations on the individual study courses.

A-330, A-332 Final Examinations

A-330

No student shall be excused from assigned final examinations except as provided Divisional Senate Regulation in A-332 below.

A-332

a. The instructor in charge of an undergraduate course shall be responsible for assigning the final grade in the course. The final grade shall reflect the student's achievement in the course and shall be based upon adequate evaluation of that achievement. The instructor's methods of evaluation must be announced at the beginning of the course. The methods may include a final written examination, a term paper, a final oral examination, a take-home examination, or other evaluation device. Evaluation methods must be of reasonable duration and difficulty and must be in accord with applicable departmental policies. Final written examinations shall not exceed three hours' duration and shall be given only at the time and places established by the departmental chairman and the Registrar.

b. At the end of the term in which a student is expected to be graduated, his major department may examine him in the field of the major, may excuse him from final examinations in courses offered by the department during that term, and with the approval of the Committee on Courses, assign a credit value to such general examination [Variance 15 June 71].

c. An instructor shall, if he/she wishes, release to individual students their original final examinations (or copies). Otherwise, the instructor shall retain final examination materials, or a copy thereof, for a period of not less than 13 months after the date of the examination, during which period, students shall have access to their examination.

Repeating Courses

Repetition of courses is subject to the policies of the departments offering the courses and the following conditions: (1) You may repeat only those courses in which you received a grade of "C−", "D+", "D", "D−", "F", "NP", however, the appropriate dean may authorize repetition of courses graded "Incomplete". (2) Repetition of a course more than once requires approval by the appropriate dean in all instances. (3) Degree credit for a course will be given only once, but the grade assigned at each enrollment shall be permanently recorded. Courses in which a grade of "C−", "D+", "D", "D−", or "F" has has been earned may not be repeated on a "passed/not passed" basis.

"Incomplete" Grades

The grade "Incomplete" may be assigned when your work is of passing quality but is incomplete and you have filed with the instructor a Request for Granting of Incomplete Grade. You must also file a "Petition for Removal of Incomplete Grade" to complete the work in a way authorized by the instructor (fee: $5). Appropriate grade points and units will be assigned upon completion. If the "Incomplete" grade was assigned Fall Quarter 1972 or thereafter and the work is not completed by the end of the next quarter you are in academic residence, the grade "I" will automatically be lapsed to a grade of "F".

It is your responsibility to present a petition to be given an "I" grade to your instructor detailing the reasons why you should be assigned an "I" grade. If the instructor is willing to grant the "I" grade, a contract for the makeup of the "I" is written on the petition form which is signed by you and the instructor. If you neglect to do this, you may receive a non-passing grade in the course. Once the terms of your contract have been met, you must file a Petition for Removal of Incomplete Grade to have the "I" grade changed to the earned letter grade. Under extraordinary circumstances, the dean of your college may grant an extension of time on removal of the "I" grade.

Courses Taken "Passed/Not Passed"

An undergraduate student enrolled in at least a minimal program may take courses on a passed/not passed basis subject to the following regulations:

(A) Except as provided in (C), (D), and (E) below, a student in good standing may enroll in one course each quarter on a passed/not passed basis. Courses thus passed shall be counted in satisfaction of degree requirements.

(B) A grade of "passed" shall be awarded only for work which would otherwise receive a grade of "C" or better.

(C) A student who has received two "not passed" grades shall be excluded from enrolling in a course on a passed/not passed basis for the next term in residence.

(D) A department or school may designate any course or courses as ineligible for election by its majors on a passed/not passed basis, and may at its option require a student who has received a "passed" in such a course before changing his major to repeat the course for a letter grade.

(E) A student who has not elected the passed/not passed option in a preceding quarter may take two courses passed/not passed.

(F) With the permission of the dean of your college or school, you may change your enrollment in a particular course from the passed/not passed basis to the regular letter grade basis at any time up to the final date for dropping the course.

Grade Points

For purposes of computing scholarship standing, a full course is counted as equivalent to 4 quarter units. Partial or multiple courses are counted proportionally.

Grade points per unit are assigned as follows: "A"−4, "B"−3, "C"−2, "D"−1, "F"−none and, prior to Fall Quarter 1972, "I"−none. The plus (+) notation adds 0.3 grade points per unit; the minus (−) notation subtracts 0.3 grade points per unit. Beginning Fall Quarter 1972, units attempted and grade points for work graded "I" (Incomplete) are excluded from grade-point computations for the quarter in which the "I" is assigned. Upon removal of grade "I", units and grade points are included in subsequent accumulated grade-point summaries. An "I" assigned Fall Quarter 1972 or thereafter, but not removed by the end of the next quarter you are in residence, will be lapsed to "F" or "NP" and so included in subsequent unit and grade-point summaries.

You can determine your grade-point average by dividing the number of grade points earned by the number of units attempted. A 2.0 ("C") grade-point average on all work undertaken at the University—all campuses—is required for satisfactory standing as an undergraduate; a 3.0 ("B") average for a graduate.

Courses taken on a passed/not passed or satisfactory/unsatisfactory basis are disregarded in determining grade-point average. In computing the grade-point average of an undergraduate who repeats courses in which grades of "C−", "D+", "D", "D−", or "F" were assigned, only the most

recently earned grade and grade points shall be used for the first 16 units repeated. In the case of further repetitions, the grade-point average shall be based on all grades assigned and total units attempted. Courses in which a grade of "D+", "D", "D−", or "F" has been earned may not be repeated on a passed/not passed basis.

Students should be aware that external agencies which evaluate student records for the purpose of admission to graduate and professional school programs may not calculate grade point averages in the same manner as the University, and students are advised to contact such agencies about their policies concerning the calculation of grade point averages.

Minimum Scholarship Requirements

Students in all undergraduate colleges and schools are expected to maintain a grade-point average of 2.0 ("C" average) on all work undertaken at the University—all campuses. Failure to maintain this level normally results in probation. The following provisions apply to all undergraduate students at Los Angeles.

Academic Probation

You will be placed on probation if, while in good standing, you fail to maintain at least a grade "C" average for all courses included in the grade-point average in a quarter.

Probationary status can be ended only at the close of a regular quarter and then only if a "C" average has been attained both on the term's work and on all work taken at the University of California—all campuses.

Academic Dismissal

You will be subject to dismissal from the University (a) if your grade-point average falls below 1.5 for any quarter, or (b) if after two quarters on probation you have not achieved a grade-point average of 2.0 ("C" average) for all courses undertaken at the University, or (c) if while on probation your grade-point average for work undertaken during any quarter falls below 2.0 (a "C" average).

Grade-point averages shall be computed on the basis of all courses undertaken in the University (all campuses), including courses grade "I" (Incomplete) prior to Fall Quarter 1972, but not including noncredit courses, courses taken in University Extension, or courses taken on a passed/not passed basis.

If you fail to meet the minimum scholarship requirements you are subject to such supervision as the faculty of your college or school may determine. The faculty or its designated representative may dismiss a student subject to dismissal; may suspend dismissal, continue probation; or may readmit on probation a dismissed student.

Minimum Progress

Undergraduate students in the College of Fine Arts and the College of Letters and Science are expected to complete satisfactorily at least 36 units during three consecutive quarters in residence. You will be placed on probation if you fail to pass at least 36 units over three consecutive regular quarters in residence. You will be subject to dismissal if you fail to pass at least 32 units in three consecutive regular quarters in residence.

Final Examinations

If a final examination is one of the regular requirements in a course, there can be no individual exemptions. Final writen examinations shall not exceed three hours duration and shall be given only at the times and places established by departmental chairmen and the Registrar.

Re-examinations are permitted only for the purpose of removing the grade "I".

Undergraduate Degree Requirements

In working toward a degree, you should keep in mind the various levels on which you must satisfy requirements. College or school and department requirements are discussed fully in this section and in the "courses" section of this catalog. The following are general University requirements for the bachelor's degree.

Course Credit

The grades "A", "A−", "B+", "B", "B−", "C+", "C" and "P" in acceptable courses denote satisfactory progress toward a bachelor's degree. The grades "C−", "D+", "D" and "D−" give unit credit toward the degree, but must be offset by grades of "C+" or better in other courses.

Scholarship

In order to qualify for a bachelor's degree you must earn at least a "C" (2.0) average in all courses undertaken at the University of California—all campuses.

Subject A: English Composition

Every undergraduate entrant must demonstrate an acceptable ability in English composition. This requirement may be met by

1. Achieving a grade of 5, 4, or 3 in the College Entrance Examination Board (CEEB) Advanced Placement Examination in English, *or*

2. Achieving a satisfactory score (600 or better) in the CEEB Achievement Test in English Composition, *or*

3. Being exempted from the requirement by the Office of Admissions because of completion at another institution of an acceptable college-level course in English composition, *or*

4. Passing a Subject A Placement Test required of all students who have not met the Subject A requirement in one of the ways described above.

Any student who does not meet the requirement in one of the ways described above must, during the first quarter of residence at the University, enroll in either English A or English 1. Assignment to one of these courses is determined by performance on the Subject A Placement Test. Should you fail in either course you will be required to repeat the course in the next succeeding quarter of your residence at the University.

Students from other countries whose native language is not English will be instructed by the Office of Admissions to take the Entrance Examination in English as a Second Language. Those who have been authorized to take this special examination may meet the English as a Second Language requirement by passing the examination or by satisfactorily completing the advanced course (English 33C) in English as a Second Language. Students who are directed by the Office of Admissions into the English as a Second Language program are not required to meet the regular Subject A requirement.

American History and Institutions

Candidates for a bachelor's degree must satisfy the "Requirement in American History and Institutions" by demonstrating a knowledge of American History and of the principles of American institutions under the federal and state constitutions. This requirement may be met by one of the following methods:

1. By the completion of any of the following courses with a grade of "C" or better or a grade of "pass". Economics 10, 183; English 80, 85, 104, 115, 170, 171, 172, 173, 174; Geography 136; History 6A, 6B, 6C, 7A, 7B, 145A, 145B, 146A, 146B, 147A, 147B, 148A, 148B, 148C, 149A, 149B, 150A, 150B, 150C, 151A, 151B, 152A, 152B, 153, 154A, 154B, 154C, 154D, 155A, 155B, 156A, 156B, 156C, 156D, 156E, 157A, 157B, 157C, 158A, 158B, 158C, 158D, 158E, 159A, 159B, 160, 161, 162, 163; Political Science 1, 114A, 114B, 143, 144, 145, 171, 172A, 172B, 180, 186.

Equivalent courses completed in University Extension may be used to fulfill the requirement. Equivalent courses taken at other collegiate institutions and accepted by the Board of Admissions may also be used to fulfill the requirement.

2. By presentation of a certificate of satisfaction of the present California requirement as administered in another collegiate institution within the State.

3. Satisfactory completion with an average grade of "B" or better, of a year's course in high school of American history or American government or a one-year combination of the two effective with the student entering UCLA Spring 1972 or later.

Candidates for a teaching credential, but not for a degree, must take one of the following courses: History 7A-7B, 151A or 151B, or Political Science 172A or 172B.

An alien attending the University on an "F-1 or J-1" student visa may, by showing proof of temporary residence in the United States, petition for exemption from this State requirement.

You can get more information regarding the requirement from the Undergraduate History Counselor, 6248 Bunche Hall.

Senior Residence

Of the last 48 units you complete for a bachelor's degree 36 must be earned in residence in the college or school of the University of California in which the degree is to be taken. When translated to the course structure at UCLA this normally implies that nine of the last 12 courses a student offers for a bachelor's degree must be earned in the college or school in which the degree is to be taken. Not more than 16 of the 36 units may be completed in Summer Session on the campus of residence.

Candidacy for Degree

You should notify the Registrar at least three quarters before you expect to receive the bachelor's degree by completing and filing the Degree Candidate (DC) Card in the quarterly "registration packet". The completed DC card must be filed (even though one or more DC cards were filed at earlier registrations) no later than the tenth day of classes in the quarter in which you expect to complete work for the degree.

Degree Candidate Cards accepted after the twentieth day of classes are subject to a late fee.

Change of College or Major

A change of college (or major) by an undergraduate student requires the approval of the college (or department) to which admission is sought. Applications are made by petition, which may be obtained from the college or school office. No student is permitted to change majors after the opening of the last quarter of the senior year.

College of Letters and Science

The College of Letters and Science is the largest college at UCLA. It ranges over more than 60 majors in the humanities, social sciences, life sciences and physical sciences. Its curricula lead to a degree of Bachelor of Arts or Bachelor of Science, normally awarded at the end of the twelfth quarter.

The degree programs are designed to expose students to a variety of intellectual possibilities by combining a reasonably wide distribution of courses and the opportunity to specialize in one particular field. To this end, students are required to select courses in the lower division that deal with general fundamentals of human knowledge. In the more diverse offerings of the upper division students are relatively free to concentrate attention upon one field of interest: their major.

Each student is expected to choose a major as soon as possible. This may be a program of related upper division courses within a single department (departmental major); or a group of coordinated courses involving a number of departments (interdepartmental major); or, under certain circumstances, an organized group of courses chosen to meet a student's special need (individual major). The pursuit of such definite courses of study often requires knowledge of courses known as "prerequisites." With the assistance of a departmental adviser, students are expected to select lower division courses related to the advanced studies they propose to follow.

The office of the Dean of the College of Letters and Science is located in Murphy Hall, Room 1312. Members of the Dean's staff are readily available to assist students with questions pertaining to academic regulations and procedures, selection of courses, etc. Many questions can be answered at the College Information Window or by phoning the Information Desk, 825-1687 or 825-1965. Students in the College who would like to confer with a Counselor (regarding overall degree requirements, academic difficulty, program planning, or assistance in selecting a major) can arrange an appointment by phoning 825-3382.

College Honors

College Honors recognizes the needs of highly qualified and motivated students for a challenging education. Its flexible provisions for superior students are designed to stimulate critical, imaginative, and self-reliant thinking. The program of College Honors under the direction of the Dean, Division of Honors, provides the exceptional UCLA undergraduate the organization and environment within which to pursue individual excellence.

College Honors will be awarded by the Dean of the College of Letters and Science to graduating seniors who have completed approximately 48 hours in honors-designated courses as approved by the Dean, Division of Honors. Such courses will include, among others, Units in the Honors Collegium, courses designated by the Departments as honors courses, honors-contract courses, Freshmen-Sophomore Seminars, Senior Seminars, Graduate Colloquia and Seminars, and research and thesis preparation courses. Students admitted to the program are encouraged at the lower division level to pursue the breadth of interdisciplinary approaches to learning and at the upper division level to engage in the depth of research in a specific discipline.

Students in the College Honors program pursue individualized curricula which emphasize the colloquium, seminar and tutorial experiences. They have access to graduate courses and seminars. They enjoy the same library privileges as graduate students, preferential pre-enrollment, eligibility for honors research awards, and special counseling within the Division of Honors. Admission to the program facilitates taking exceptionally heavy course loads if the student so desires, receiving credit for courses pursued by independent study ("Credit by Examination"), and applying for concurrent work for both undergraduate and graduate degrees in the Departmental Scholar Program. The Dean will maintain a progress file of each student which can be used to support applications for graduate study, professional schools, jobs, etc., and will write appropriate letters of recommendation outlining the student's achievement in College Honors. Further, College Honors will be recorded on the student's transcript and a Certificate of College Honors awarded upon graduation. The Certificate of College Honors as well as any letters of recommendation will state that College Honors is the highest academic recognition the College of Letters and Science confers on its undergraduates. Other honors with the B.A. will be awarded also as appropriate.

Entering freshmen with both an exceptional grade point average (3.5 or above) and SAT scores (a combined 1275 score) are invited by the Dean, Division of Honors, to participate in the College Honors program. Other students with at least 16 or more graded units at UCLA with a cumulative grade-point average of 3.5 or above are encouraged to apply. Interested students with a lower grade point average, who feel they could benefit from and contribute to the program, are invited to discuss admission with the Dean, Division of Honors.

Honors Status

A student in the College of Letters and Science who has demonstrated superior academic achievement is eligible to apply for Admission to Honors Status, which is recorded on the student's transcript. Admis-

sion may be granted by the Dean, Division of Honors after completion of 16 or more graded units at UCLA with a cumulative grade-point average of not less than 3.5. Continued superior academic achievement is requisite for remaining in Honors Status.

Application for admission may be made at the Division of Honors Office, 1331 Murphy Hall, Window 10.

Honors Status students are under the immediate jurisdiction of the Division of Honors Office, receiving their counseling and other student services there. Admission facilitates taking exceptionally heavy course loads (see Study-List Limits), and receiving credit for courses pursued by independent study (see "Credit by Examination").

Students with Honors Status are usually eligible for admission to the honors programs offered by a number of the departments in the College, including honors sections of regular courses, honors courses of a seminar type, honors thesis programs, and supplementary and advanced directed study. The departments are responsible for admitting students to their separate honors programs. For details of these programs, consult the Dean of Division of Honors or the department of your major. (For the possibility of concurrently working for both undergraduate and graduate degrees see Departmental Scholar Program.)

Honors with the Bachelor's Degree

1. Departmental Honors and Departmental Highest Honors may be awarded at graduation upon the recommendation of your major department. The recommendation will be based on successful completion of a departmental honors program. For the requirements of the various departments, consult the department concerned.

2. Honors with the Bachelor's Degree will be awarded according to your over-all grade-point average at the beginning of the last quarter of academic work, or, if not then eligible, at graduation. To be eligible for Honors with the Bachelor's Degree, a student must have completed at least 20 graded courses (80 units) in the University of California. Course work taken on the Education Abroad Program will not count towards Honors with the Bachelor's Degree, effective Fall 1979. The College Committee on Honors is responsible for awarding Honors. The degrees of honors and the requirements for each degree are: *Cum laude*, an over-all average of 3.4; *Magna cum laude*, 3.6; *Summa cum laude*, 3.8. Marginal cases will be decided by the Committee on Honors. Students should be aware that the Committee grants petitions for waiver of these requirements only in extraordinary cases.

3. A list of students who have graduated with Honors with the Bachelor's Degree, Departmental Honors, or both, shall be published yearly. Each honors student will be awarded a certificate of honors at graduation indicating both the Departmental Honors and the Honors with the Bachelor's Degree.

Division of Honors Office (Letters and Science)

The Division of Honors Office provides academic conseling and services for approximately one-fourth of the undergraduates in the College of Letters and Science. Under its jurisdiction are Regents, National Merit Scholars, Alumni Scholars, and students on the High School Special Program, the Education Abroad Program, the Departmental Scholar Program, and those students who have qualified for Honors Status and College Honors by demonstrating superior academic achievement at UCLA. Services offered include academic counseling, informal degree checks, petitions, and letters of recommendation to graduate and professional schools. In addition, admission to Honors Status and College Honors facilitates taking exceptionally heavy course loads and receiving credit for courses pursued by independent study.

About A Major in the College of Letters and Science

Choosing an area of academic specialization from the long list of majors offered by the College of Letters and Science is one of the most important decisions you will make at UCLA.

Any student with 90 or more units towards a degree must declare a major. If you have already declared your major—or are about to declare it—you can skip this section, picking up again at "Regulations".

Entering Students

If you are a freshman, you may be a bit uncertain about your specific academic goals. Many entering students do not specify a major, preferring instead the "undeclared major" route.

Students who have not declared a major often take introductory courses in the natural sciences, social sciences and the humanities as a way to search for the area that most excites their interest.

Then, once you change to a major you will probably find that some of the courses you have sampled will count toward fulfilling breadth requirements.

Continuing Students

If you are heading for the 90-unit limit, and have still not declared a major, you should file a "petition for declaration of major" with the College Office after receiving a favorable recommendation from either the department or committee which governs the major.

Help

You can get a variety of help with academic planning—setting goals and getting to them—from the College of Letters and Science office in 1312 Murphy Hall (telephone 825-1965 or 825-1687), Psychological and Counseling Services in 4223 Mathematical Sciences (telephone 825-7057) and the Placement and Career Planning Center located just south of Powell Library (telephone 825-2981).

Also, most departments have faculty members and counselors who are available to discuss in detail the offerings in their specialization(s).

Printed resources to help you are listed at the end of this section; you will also find sources of academic assistance in the "resources to help you" section of this Catalog.

Regulations Governing the Major

A major shall consist of not less than nine (36 units), nor more than 15 (60 units) upper division courses, except that a departmental major may be increased by three more upper division courses (12 units) in other departments, with the approval of the Executive Committee of the College.

There are three categories of majors in the College of Letters and Science: **departmental, interdepartmental** or **individual.**

Departmental and Interdepartmental Major

A departmental major consists of a group of coordinated upper division courses, of which at least six courses are in one department, set up and supervised by a department.

An interdepartmental major consists of at least 13 coordinated upper division courses, of which not more than eight are in one department, set up and supervised by a committee appointed by the Executive Committee of the College.

A student who has been away from the University for several terms should consult with his major department or curriculum adviser concerning the major requirements under which he will graduate.

Individual Major

A student who has some unusual but definite academic interest for which no suitable major is offered in the University of California and who has completed at least three quarters of work (a minimum of nine courses) in the University with a grade-point average of 3.4 or higher may, with the consent of the Dean of the College and with the assistance of a faculty advisor appointed by the Dean, plan an individual major.

The **individual major** must be submitted to and approved by the Dean of the College no later than the first week of classes of the third quarter before intended graduation. Your request should be accompanied by a statement defining the purposes of the major and its relation to your goals, and explaining the reasons why the program cannot be accommodated within some existing major. There

must be an accompanying statement from a faculty advisor indicating that there has been significant faculty consultation in devising the program. The faculty adviser should be a regular member of the faculty of the College of Letters and Science, with a professorial title in a department that offers a major in the College.

Each request for an individual major should list the course numbers and titles in the preparation for the major and in the major itself, including an indication of the relevance of each course or group of courses to the program. The major should consist of at least twelve and not more than fifteen upper-division courses, a majority of which are in departments offering a major in the College.

The major may not include any courses taken on a P/NP basis. CED and other experimental courses may not be used as part of a major.

A senior thesis is required of each student with an individual major. An outline of the thesis, worked out with the help of the faculty adviser, should be submitted to the Division of Honors Office no later than the first week of the second quarter before graduation. The faculty adviser will pass final judgment on the quality of the thesis: a copy of the thesis must be filed in the Division of Honors Office. The Dean must certify that you have completed the requirements of your major, including completion of the thesis, before the degree is granted. The title of the major will not appear on the diploma, but will be entered in the memoranda column on your official transcript. The major will be indicated on the diploma as Individual Field of Concentration. Further information about the individual major may be obtained at the Division of Honors Information Window or from one of the Division of Honors counselors.

Double Majors

Students in good standing are sometimes permitted to have a *double major,* consisting of two departmental majors in this College, provided they can be completed within the maximum limit of 208 units.

Double majors in the same department with very few exceptions are unacceptable. If the majors are not in the same division, the student will designate one of the two majors as the principal one, in order to identify the division for the purpose of satisfying the breadth requirements. Courses used to satisfy the requirements for the principal major may also be used to satisfy the requirements for the secondary one, but *not more than five courses may be common to both majors.*

For *double majors,* courses outside the department of the principal major which are required in preparation for that major may be used to satisfy the breadth requirements. Courses required for the secondary major (including preparation for the major) may be used to satisfy any set of breadth requirements.

Changing Your Major

Change of Major. A student in good standing who wishes to change a major may petition the department or committee in charge of the proposed new major, provided that the proposed new field of study can be completed *without exceeding the 208-unit limit.* Final action on the petition will be taken by the Dean of the College. Certain majors may be unavailable. A change of major may be denied if all preparatory courses have not been satisfactorily completed. Some Departments have established specific grade requirements on courses taken in preparation for the major. A student on probation may not normally change his major. No change of major will be permitted after the opening of the student's last quarter. Each student who has declared a major should be advised by a representative of the department or committee before enrolling in classes.

Students who fail to attain a grade-point average of at least C (2.00) in work taken in the prerequisites for the major, or in courses in the major, may, at the option of the department or committee in charge, be denied the privilege of entering or of continuing in that major. You must attain an average grade of C (2.00) in all courses undertaken in your major.

Organized Majors in the College of Letters and Science

The College of Letters and Science offers the following departmental majors, which lead to the area of Bachelor of Arts; those followed by an asterisk (*) lead to a degree of Bachelor of Science.

African Languages
Ancient Near Eastern Civilizations
Anthropology
Arabic
Astronomy
Atmospheric Sciences
Biochemistry*
Biology
Business-Economics
Chemistry*
Chinese
Classics
Economics
Economics-System Science*
English
English-Greek
English-Latin
French
French and Linguistics
General Chemistry*
General Physics
Geography
Geography-Ecosystems
Geology*
Geology (Engineering Geology)*
Geology (Geochemistry)*
Geology (Paleobiology)*
Geology (Non-renewable Natural Resources)*
Geophysics (Applied Geophysics)*
Geophysics (Geophysics and Space Physics)*
German
Greek
Hebrew
History
Italian
Italian and Special Fields
Japanese
Jewish Studies
Kinesiology*
Latin
Linguistics
Linguistics and Computer Science
Linguistics and English
Linguistics and French
Linguistics and Italian
Linguistics and Oriental Languages
Linguistics and Philosophy
Linguistics and Psychology
Linguistics and Scandinavian Languages
Linguistics and Spanish
Mathematics
Mathematics-Applied Science
Microbiology
Philosophy
Physics*
Political Science
Portuguese
Psychobiology*
Psychology, General
Quantitative Psychology
Scandinavian Languages
Slavic Languages and Literatures
Sociology
Spanish
Spanish and Linguistics

You can find a detailed description of each of these majors under their headings in the "Courses" section of this book.

Interdepartmental Majors

In addition, the College offers some 13 majors which cross departmental boundaries in their field of inquiry. Each of the interdepartmental majors listed below leads to the degree of Bachelor of Arts; those marked

with an asterisk (*) lead to the degree of Bachelor of Science.

Afro-American Studies

Chicano Studies

Communication Studies

Cybernetics*

East Asian Studies

Economics-System Science

Ethnic Arts (Intercollege)

Indo-European Studies

Latin American Studies

Mathematics-Computer Science*

Mathematics-System Science*

Near Eastern Studies

Study of Religion

Special Program in African Studies

This program is designed primarily for (1) students who plan to live and work in Africa or who are interested in government and public serivce careers involving African affairs, and (2) students who plan to pursue graduate work in one of the social sciences or Near Eastern and African languages with primary concentration on the African field.

The philosophy of the program in African Studies is that people with a firm grounding in one of the established disciplines can make the best contribution to an understanding of Africa and its problems. Thus, the special program in African Studies can be taken only jointly with work toward a bachelor's degree in one of the following fields: anthropology, economics, geography, history, Near Eastern and African languages, political science, or sociology. The student completing this special program will receive a degree with a major in a chosen discipline and specialization in African Studies. The Chairperson of the Committee in Charge will certify completion of the Special Program in African Studies.

Preparation. The introductory courses listed here in three of the following departments: Anthropology 5A and 5C; Economics 1 and 2, or 100; Geography 1 and 3; History 10A-10B; Linguistics 5; Sociology 1 or 101. Training in Arabic, French, Portuguese or an African language is highly recommended.

Upper Division. The student is required to take a departmental major in the social sciences, or by special arrangement with the Committee Chairman, in the humanities or arts. In addition, he is required to take a course related to Africa in each of four departments, one of which must be African Languages 190. African Languages 190 and one of the other three required upper division courses related to Africa may, however, by replaced by a three-quarter sequence of any African language.

For more information, you are invited to contact: Maxine Driggers, African Studies Center, 10244 Bunche Hall, 825-2944, or Professor Christopher Ehret, History Department, 6265 Bunche Hall, 825-4093.

Special Program in Asian American Studies

The program in Asian American Studies is intended to promote the study of Asian and Pacific peoples in the United States from several disciplines. It provides a general introduction to Asian American Studies for those who anticipate advanced work at the graduate level or careers in research and community work related to the Asian American.

Students may participate in the program by undertaking a course of study which focuses on the special roles and experiences of Asian and Pacific peoples in the United States through a department major or the interdepartmental major in East Asian Studies.

Preparation. Asian American Studies 100AB, Introduction to Asian American Studies.

Upper Division. Since Asian American Studies is not a degree-granting program, students participating in it must complete an organized major.

For more information, you are invited to contact the curriculum coordinator, 3232 Campbell Hall, 825-2974.

Certificate Program in Diversified Liberal Arts

In order to earn a credential to teach in California elementary Schools, a student must complete the Teacher Credential Program in the Graduate School of Education and either earn a satisfactory score on the Commons Section of the National Teachers Examination, or complete the Diversified Liberal Arts Program (DLAP) in the College of Letters and Science.

To earn the Certificate in Diversified Liberal Arts, the student must complete all the requirements for the Bachelor's degree in the College of Letters and Science. In addition, the student must complete required and elective courses in four areas: (1) English, (2) Mathematics, and the Physical or Life Sciences, (3) Social Sciences, (4) Humanities, Fine Arts and Foreign Language.

Most of the requirements for one of the areas will be satisfied by the student's major; the student must complete seven courses (28 units) in each of two other areas, and eight courses (32 units) in the fourth area. The student decides in which area to complete the eighth course. A grade of "C" or better (a "C−" grade is not acceptable) must be earned in all courses *specifically required* for the program. A minimum C (2.0) grade point average is required in each of the four areas. Courses in preparation for or on the student's major and in satisfaction of the D requirement may not be taken P/NP.

Courses in Divisions outside the major, which are required as preparation for or as part of the major, may be applied toward the area course requirements. However, no course may be applied in more than one area. Students will be expected to satisfy breadth requirements of the College of Letters and Science, but courses used to satisfy the breadth requirements may be applied on the Diversified Liberal Arts Program. The Dean of the College will certify completion of the Program.

Area 1. English

Composition and Grammar: Required: Two courses: English 120A plus one course in satisfaction of the D requirement. If the student wishes to complete the Area 1 requirements with additional composition and grammar, the courses must be chosen from the following: English 130, Linguistics 1, 2, 100.

Literature: Required: One course from English 10A, 10B, 10C, 112, 113, Humanities 1A, 1B, and all upper division courses in English literature for which the student has the prerequisites. The student may complete more than one course from this list to satisfy the Area 1 course requirement.

Speech: Required: One course from Communication Studies 10, 100, Speech 1, 2, 107, 109. The student may complete more than one course from this list to fulfill the Area 1 course requirement.

Area 2. Mathematics and the Physical or Life Sciences

Mathematics: Required: Mathematics 38A-38B and 104. Other courses in Mathematics may be substituted for one or more of these with the written approval of the Department of Mathematics and the Dean of the College of Letters and Science.

Physical or Life Sciences: Required: A minimum of 12 units in Physical Sciences and/or Life Sciences, apart from Mathematics. To fulfill the Area 2 requirement, the student may elect courses that satisfy the Physical Sciences or Life Sciences breadth requirements.

Area 3. Social Sciences

History: Required: One course from History 7A, 7B, 151A, or 151B. Other courses that the student may elect to fulfill the total area course requirement are those listed as fulfilling the Social Science breadth requirements.

Area 4. Humanities, Fine Arts, and Foreign Language

Although there are no specific course requirements, courses used in this area must be selected from those courses listed as fulfilling the Humanities breadth requirements and, in addition, any courses in foreign language and Dance 10A, 10B, 10C; Music 1, 113A, 113B; Theater Arts 118A, 118B, 119.

Students who plan to pursue the Diversified Liberal Arts Program should begin to take courses in their freshman year that will fulfill these requirements. Transfer students may petition to have suitable courses completed at other institutions applied to the requirements of this Program.

For further information about the Diversified Liberal Arts Program, you are invited to contact a counselor in the College of Letters and Science, Window #4, 1312 Murphy Hall, 825-3382. For information regarding the Teacher Credential Program in the Graduate School of Education, students *must* see a counselor in Room 201 Moore Hall, 825-8326.

Special Program in International Relations

This program can only be taken jointly with a major in political science, and all requirements for the political science major must be met, by or in addition to meeting the requirements for this special program. The student completing this special program will receive a degree with a major in political science and specialization in international relations. The program is designed to serve the needs of: (1) students desiring a general education focused on international affairs; and (2) students preparing for graduate work in international affairs, whether in a social science, or area study.

The program also partially serves the needs of: (1) students planning careers (in business, law, journalism, or library service) with an international emphasis; and (2) students preparing to teach social science in the secondary schools. These students should govern their programs primarily by the preparation requirements of the professional school or teaching credential of their choice.

Courses in management and administration, and in verbal and written communications, will ordinarily increase the career options of students in this program.

Preparation. Political Science 1, 2, and 3. History 1A-1B-1C, or any three courses selected from History 8A-8B, 9A-9D, 10A-10B. Economics 1 and 2, or 100. Sociology 1 or 101. Anthropology 22, 100 or 102. Geography 3 or 5.

Upper Division. The political science major should be completed as follows: Political Science 110; any four upper division courses in Field II, International Relations; Political Science 168L, and three additional upper division courses in Field IV, Comparative Government; one additional course from Field I or two additional courses both in Field III, Field V or Field VI.

Other social sciences courses required: Geography 140; Sociology 140; two courses from Economics 110, 111, 112, 180, 190; three courses from History 116A, 117A, 142A-142B, 148, 152A-152B.

Language requirement: completion of the sixth quarter course (or its equivalent, as prescribed by the language department), with a grade of C or better, of any modern foreign language. French 6, German 6, Spanish 25, Russian 6, are most frequently offered in fulfillment of this requirement, but see also the offerings listed under Portuguese, Italian, Germanic Languages, Near Eastern and African Languages, and Oriental Languages. Arabic, Chinese, French, German, Japanese, Russian and Spanish, are the languages of widest career utility in international affairs.

Area Focus. Students are advised but not required to concentrate their political science, geography, history and language courses so as to achieve broad familiarity with one area such as Latin America, Africa, the Atlantic area, the Soviet sphere, East Asia, Southeast Asia, South Asia, or the Middle East.

For further information, you are invited to contact: Professor David Wilkinson, 3280 Bunche Hall, 825-3450.

Special Program in Urban Studies or Organizational Studies

Students may elect to combine one of these programs with a departmental major and may petition to have the area of specialization recognized with the bachelor's degree.

The option of completing an individual major in Urban Studies or Organizational Studies is also open to qualified students.

Students with departmental majors should seek advising in the appropriate department. Students interested in the individual major should consult a counselor in the College of Letters and Science.

The requirements for the specializations to be taken in conjunction with the major in the Division of Social Sciences are:

Preparation: At least five of the following courses appropriate to the courses to be taken in the specialization: Economics 1 and 2, Sociology 18 and 109, or the equivalent. Political Science 1, Psychology 10, Sociology 1 or 101, Geography 4.

Urban Studies Specialization: (1) At least three courses outside the major department chosen from: Political Science 182A, Sociology 125, Economics 120, Geography 150, Anthropology 160, Psychology 168. (2) One of the following suites of courses, outside the major department: Political Science 180, 182B, 188B; Economics 121, 130, 131, 133, Sociology 124, 154, 155; Geography 145, 146, 152, 156; History 154A-D; Psychology 127, 135, 137A. (3) Internship experience in an urban governmental or community service organization.

Organizational Studies Specialization. (1) At least three courses outside the major department chosen from: Political Science 181, 190, Sociology 121, 141, Management 190, Psychology 149. (2) One of the following suites of three courses, outside the major department: Political Science 146, 147, 180; Economics 170, 171, Sociology 124, 140, 152; Geography 148, 163, Psychology 135, 148, 189. (3) Internship experience in a governmental or service organization.

For further information you are invited to contact Professor Robert Fried, 4289 Bunche Hall, 825-4331.

Special Program in Women's Studies

Students completing a bachelor's degree may petition to receive a Women's Studies Specialization in addition to a major in their chosen discipline.

This program is designed to promote the integration of the study of women into traditional academic disciplines. It is oriented toward the student who wishes to undertake studies in an established discipline with a special emphasis on the roles, contributions, and cultural images of women. At the same time, the program is also designed to provide a view of women in society from the perspective of several different disciplines. With these purposes in mind, two Women's Studies courses have been instituted in order to provide a multidisciplinary over-view of research on women and sex roles and to present new research and theory in this area.

Preparation. Women's Studies 100, Indroduction to Women's Studies.

Upper Division. The student participating in this program is required to complete a departmental major in one of the following departments: Anthropology, Biology, English, History, Political Science, Psychology, or Sociology. Students may petition to have other departments accepted. The requirement of a departmental major is included to provide the student with a strong background in the subject matter and analytic tools of a discipline. These are a necessary preparation for a multidisciplinary program and will enable students who desire further training to embark on related graduate study.

Students are required to complete at least eight classes (none of which may be pass/not pass) from the Women's Studies list. These eight must include Women's Studies 100, Introduction to Women's Studies; Women's Studies 197, Senior Seminar in Women's Studies, and at least one course from each of two areas outside the student's major department. Each quarter the Women's Studies Committee will prepare a list of departmental courses with Women's Studies content. The core courses of the Women's Studies Program are offered on a regular basis by individual departments (Anthropology 151, 163, Classics 150, Education M148/Women's Studies M148, English M107/Women's Studies M107, French 158; History 156C-D-E;

Italian M158/Women's Studies M158, Philosophy 192, Psychology M137E/ Women's Studies M137E, Psychology M165/ Women's Studies M165, Sociology 160, Women's Studies 185. Courses offered through the Council on Educational Development (CED) that are on the Women's Studies list as well as departmental special topic courses and seminars also may be applied to the specialization.

Students are encouraged to declare their specializations in Women's Studies as early as possible and to discuss with the Director their proposed course of study.

For further information you are invited to contact The Women's Studies Program, 255 Kinsey, 824-6172.

Afro-American Studies Major

The major in Afro-American Studies is designed to provide UCLA students with a program of courses leading to a Bachelor of Arts degree in Afro-American Studies. The major offers an opportunity to study in a systematic way the origins, experiences and conditions of people of African descent in the United States and elsewhere in the New World.

The curriculum has two fundamental goals. First, it aims to provide a comprehensive introduction to the crucial life experiences of Afro-Americans. Secondly, it seeks to assist students in the development of academic and professional skills which will enable them to assume useful roles in society.

Accomplishing these objectives requires that students in this program assume a significant measure of responsibility for the actual design of their course work, in conjunction with the faculty adviser for the Afro-American Studies program whom candidates for the program should seek out at the earliest date. Upon entering the major and after consulting with the program faculty adviser, students will choose an area of concentration from one of the departments listed below. Four lower division and six upper division courses must be taken within the chosen department. Two additional upper division courses from the approved list must be taken in departments outside of the student's field of concentration. Finally, Afro-American Studies majors are required to complete two seminars, a junior seminar (Afro-American Studies 100) and a senior colloquium, (Afro-American Studies 197) to be offered by the program.

Preparation for the Major. History 10A; four lower division courses in one concentration: *Anthropology:* Anthropology 1A, 1B, 5A, 5C; *Economics:* Economics 1, 2, 4, Mathematiics 3A; *English:* English 3, 4, Linguistics 1, 2; *History:* History 6A, 6B, 6C, 10B; *Philosophy:* Philosophy 4, 5B, 6, 22; *Political Science:* Political Science 1, 6, Sociology 1, Economics 1; *Psychology:* Psychology 10, Anthropology 11, Biology 2, and one quantitative course from the list below: *Sociology:* Sociology 1, Linguistics 1, 2, and one quantitative course from Mathematics 50A, Psychology 41, Economics 40, Public Health 160A, or Sociology 18. Students concentrating in Psychology or Sociology are strongly urged to complete the required lower division quantitative course at the earliest possible moment.

The Major. (1) Anthropology 164, History 158BC. (2) six upper division electives within the department of concentration from the approved list of courses. (3) two upper division electives outside the department of concentration selected from the approved list. (4) two seminars offered by the Afro-American Studies Program.

Honors Option. An Honors Option is also available. Students participating in this option are required to complete an independent research paper or project. Normally, this paper or project would receive three quarters of credit and would be undertaken with the guidance of a faculty member.

For more information, you are invited to contact Dr. Armstead L. Robinson, 5274 Bunche Hall, 825-7403.

Major in Chicano Studies

This multidisciplinary program leading to the Bachelor of Arts degree in Chicano Studies is designed to provide systematic instruction for liberal arts and pre-professional majors who wish concentrated study of the Chicano experience. Viewed as developmental, the program subjects to critical investigation and analysis of the Chicano reality: social economic, educational, historical, political and psychological.

This major is recommended for students who plan to prepare themselves for graduate study as well as students preparing for public service careers. Students are encouraged to spend up to one year in either a) a service agency in the Chicano community or, b) in a professional research project on the Chicano experience.

Preparation for the Major. One course from each of the following departments: Anthropology 22, 5A, or 5C; Economics 1 or 2; History 6A, 6B, or 6C; Political Science 1; Sociology 1; Spanish 5 or its equivalent.

The Major. This consists of three elements, one of which is optional.

1. *Major Core.* Eight courses: Education 102; English 105; History 159A, 159B, 197; Political Science 147; Sociology 124** or 155**; Spanish 141** or M149.**

2. *Major Concentration.* Four courses in one discipline selected from the following: Anthropology 100, 119, 122A, 139, 143, 145AB, M146, 150, 160, 170AB, 172; Economics 110, 120, 121, 150, 151, 152, 172; English 104, 106, 171, 172, 173, 174, 188, 189, 190; History 147B, 153, 154B, 160, 162, 163; Political Science 115, 142, 149, 171, 172B, 173, 174, 181, 182A, 186, 190, 191; Psychology 127, 130, 133D, 134, 135, 136, 137A, 137B, 137C, 143, 175; Sociology 109, 113, 120, 123, 125, 129, 140, 142, M143, 155**, or 124**; Spanish 100, 103, 105, 109, 115, M118, 121A, 121B, 137, 139, 142A, 142B, 141**, or M149.**The student may petition the Committee in charge of the major to include in the Major Concentration area a course not on the approved list. CED courses may be applied by petition.

3. *Optional Multi-disciplinary Senior Thesis.* Prerequisite: senior standing. Chicano Studies Majors will have the option during their senior year to enroll in two 199 courses in their Major Concentration area, with the intention of producing a Chicano Studies undergraduate thesis related to the major concentration. Enrollment in the two 199 courses will be with the advice and consent of a faculty member. The first quarter course will include thesis conceptualization and formulation, along with preliminary data collection for the thesis. The second quarter course will entail completion of the data collection, analysis of the data, and termination of the thesis. The Multi-disciplinary Senior Thesis is optional.

Course Limitations. Not more than two 199 courses may apply on the Major Concentration; 199 courses applied on the Multi-disciplinary Senior Thesis option may not also be used on the Major Concentration area. Registration in special studies courses (199)must be approved by the departmental chairman and either the Chairman or Adviser for the Chicano Studies Major in writing. Not more than two CED courses may be applied on the Major Concentration.

For further information, you are invited to contact: Dr. Carlos Haro, 3121 Campbell Hall, 825-2363.

Major in Communication Studies

The major in Communication Studies seeks to provide the student with a comprehensive knowledge of the nature of human communication, the symbol systems by which it functions, the environments in which it occurs, its media, and its effects. The major draws its resources from the social sciences, humanities, and fine arts. The specialization in Mass Communication centers upon formal and institutional communication systems and the social contexts in which they function. The specialization in Interpersonal Communication centers upon face-to-face communicative interaction in the small group environment. Students selecting the major must complete the required lower division prerequisites and a minimum of 16 upper division courses as set forth below.

Enrollment in the major is limited. Admission to the major will be by application to the Committee in charge.

For purposes of Breadth Requirements the major in Communication Studies is designed as a major in the Division of Social Sciences.

Preparation for the Major. Communication Studies 10, Linguistics 1, Psychology 10, Sociology 1. Linguistics 2 is required for students who elect to specialize in Interpersonal Communications.

The Major. Required core courses: Communication Studies 100 and 101 and one course from Anthropology 146, Communication Studies 102 or Linguistics 100.

Specializations. A. Studies in Mass Communication. (1) Theory and Method. Required Courses: Communication Studies 140, Communication Studies 152 and either Communication Studies 147 or Sociology 122, and one course from Political Science 141, Psychology 137B or Sociology 150. (2) Modes of Mass Communication. Two courses chosen from Communication Studies 160, 165, 170. (3) Media and Media History. Two courses chosen from Journalism 192. Theatre Arts 106A, 108, 110A and either Theatre Arts 116 or Communication Studies 175. (4) Electives (Five Courses.) Two courses chosen from Communication Studies 120, Communication Studies 130, Psychology 135 or Sociology 154, Psychology 137A or Sociology 152, Sociology 155. Three courses chosen from one of the following three groups: (a) Language Theory. Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123. (b) American Studies. English 101B, 101C, 115, History 148A,B,C, History 150A, 150B, 156A, 156B, Political Science 114A, 114B. (c) Social Systematics. Anthropology 141, 144, 145A, 145B, 149A, 149B, Sociology 144A, 144B, and either Sociology 151 or Anthropology 148.

Studies in Interpersonal Communication. (1) Theory. Psychology 135 or Sociology 154, Psychology 137A or Sociology 152. (2) Methods. Three courses required: Communication Studies 120, Management 182, Psychology 174. (3) Heterogeneous Groups Communication. Three courses chosen from Anthropology 139, Communication Studies 130, Sociology 124, 155. (4) Electives (Five courses). Two courses chosen from Communication Studies 140, Communication Studies 147 or Sociology 122, Communication Studies 152, 160, 165, 170. Three courses chosen from one of the following groups: (a) Language Theory. Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123. (b) Media and Media History. Journalism 192, Theatre Arts 106A, 108, 110A and either Communication Studies 175 or Theatre Arts 116. (c) Social Systematics. Anthropology 141, 144, 145A, 145B, 149A, 149B, Sociology 144A, 144B or either Anthropology 148 or Sociology 151.

For an application and further information, you are invited to contact: Ms. Marde Gregory, Royce Hall 232, 825-3303.

Major in Cybernetics

This major provides an introduction to quantitative foundations of information processing, communication, control, and system analysis, accompanied by complementary studies of models and phenomena arising in the life sciences, health sciences, bioengineering, etc. The major is appropriate preparation for employment or for graduate or professional studies emphasizing interdisciplinary activity. Technical courses for the major are offered by the Department of System Science and other units of the School of Engineering and Applied Science, and accompanying coursework is taken in Biology, Psychology, Linguistics, Mathematics, the School of Medicine, and related disciplines. Options may be arranged within the major to feature: (1) cybernetics and biology, emphasizing physiology, cell biology, and the nervous system; (2) cybernetics and premedical studies; (3) cybernetics and psychology, emphasizing physiological psychology, perception and learning; (4) mathematical system analysis; (5) cybernetics and linguistics; (6) computing aspects of cybernetics and bioengineering.

Preparation for the Major. Biology 5, Chemistry 11A, Engineering 10C or 10F, Mathematics 31A-31B-32A-32B-33A-33B, Physics 8A or 6A, Physics 8C or 6B. Two courses selected from Biology 6-7-8 and Chemistry 11B-11C-21-23-25; two laboratories selected from Biology 6L, 8L, Chemistry 11BL, 11CL. Two additional courses selected from these Biology and Chemistry series, or from: Computer Science 20, 30; Physics 6C, 8B, 8D, 8E; Psychology 10, 41. The major adviser will recommend selections appropriate to the various options. In general, Cybernetics majors are encouraged to complete as much as possible of the lower-division Biology, Chemistry, and Physics series at some time during their four-year programs.

Students who have completed courses in the Mathematics 3 series may be permitted to enter the required Mathematics 31-32-33 series at an appropriate intermediate point.

The Major. Fourteen courses, as follows: two courses in group (a) below; five courses from not more than two of the groups (a), (b), (c), (d); three courses in group (e); three courses from groups (e) and (f); one course selected from any of the groups (a) through (g).

The groups are: (a) upper-division courses in Biology, Microbiology, Organic and Biochemistry (Chemistry courses numbered 133 through 17), and Physiological Psychology (Psychology 115 through 118E); (b) Linguistics 100, 103, 104, 120A, 120B, 125, 145, 164, 165A, 165B; (c) Psychology 110 through 112E, 120 through 124, 150, 151; (d) courses in Mathematics numbered 110 and above; (e) courses in System Science numbered Engineering 120 through 129; (f) upper-division courses in Computer Science, Electrical Sciences and Engineering (Engineering 100, 100B, 100L, and 110 through 119), Biocybernetics (Engineering M196B); (g) other upper-division courses for which the student is eligible in Chemistry, Physics, Engineering, Biological Chemistry, Biomathematics, Physiology, Public Health.

Minimum Standards. Each course taken in preparation for the major and in the major itself must be completed with a letter grade of C− or higher. Furthermore, each student in the major must maintain an average of 2.5 or better in upper division courses in the major, and in the lower division Mathematics courses of the preparation for the major.

Major in East Asian Studies

This major is designed to serve students who wish to study and/or reside in the Chinese- and Japanese-speaking areas of East Asia, and the Asian American communities. It also prepares students for graduate study in one of the social science disciplines which customarily explore those areas.

Preparation for the Major. History 9B-9C; Oriental Languages 1A-1B-1C or Oriental Languages 9A-9B-9C or a parallel Cantonese sequence; Oriental Languages 11A-11B-11C or Oriental Languages 19A-19B-19C. Students planning to pursue classical Chinese in the Major will need Oriental Languages 13A-13B-13C in addition to the above courses.

The Major. This consists of three parts:

1. Four courses selected from the following: Anthropology 103C, 103D, Asian American Studies 100A, 100B, Geography 186, History 182A-C, 183, 184, 161, 187A-C, Political Science 135, 136, 159, 160, Sociology 134.

2. Five courses selected from the following: any courses in the social sciences listed above under "1" not being used to satisfy that requirement; any upper division courses in the Department of Oriental Languages not being used to satisfy other parts of the Major Requirements; any new upper division courses relevant to East Asian or Asian American studies (including no more than three CED courses) which may be approved by the Executive Committee of the College on the recommendation of the Advisory Committee; Art 114B, 114C, 115B, 115C; Dance 140B, 145; Music 140B, 141, 145, 146A-146B-146C, 147A-147B*.

3. The prescribed courses in one of the following areas (courses offered to satisfy this requirement will not also satisfy other parts of the Major requirements): (a) *Language:* Oriental Languages 121A-121B and two other upper-division courses in Chinese; or Oriental Languages 119A-119B and two other upper-division courses in Japanese. (b) *Archaeology:* Any four of the following: Oriental Languages 170A-170B; Anthropology 109*, 175A*-175B*); (c) *Geography:* Geography 132 or 133, 186; and two additional upper-division Geography courses. (d) *History:* Four upper-division or graduate courses in East Asian or Southeast Asian history (History 182A-C, 183, 184, 187A-C, 190A-B, 197 when in the East Asian field, 214). (e) *Political Science:* Political Science 115*, and three courses selected from the following: Political Science 135, 136, 159, 160, 161, 197 when in the East Asian field. (f) *Sociology:* Sociology 124* and three courses

selected from the following: Sociology 113*, 126*, 134*, 151*, 154.

For further information, you are invited to contact: Professor David M. Farquhar, 8911 Mathematics Science Building, 825-3078.

*Courses so marked have prerequisites which are not included among the courses mentioned here.

Major in Economics-System Science

This major is an alternative to the regular departmental major in Economics, and combines work in the Department of System Science (School of Engineering and Applied Science) with preparation in economic theory and in those aspects of mathematics and statistics that are necessary for the study of quantitative aspects of economics and systems theory. The major is appropriate for students who plan graduate study with emphasis on such areas as economic theory, mathematical economics, econometrics, feedback and control systems, optimization, computing techniques, and the modeling and analysis of various socio-economic systems.

Preparation for the Major. Economics 1 and 2; Engineering 10C or 10S; Mathematics 31A-31B, 32A-32B, 33A-33B.

The Major. Fourteen upper-division courses are required, consisting of: six courses in Economics, selected from those numbered Economics 101 and above; six courses in System Science, selected from the series numbered Engineering 120 through 129; two courses in Mathematics, selected from those numbered Mathematics 110 and above.

Selections must include the following: Economics 101A, 101B, and 102; one of Economics 144, 145, 146, 147; Engineering 120A or Mathematics 150A or 152A; Engineering 120B or M120C, or Mathematics 150B or M151 or 152B.

Recommended System Science selections include Engineering 129A and 129L in the optimization area, and Engineering 122A and 128A in the area of dynamic systems analysis. In the latter area, a new introductory course on Elements of System Analysis, designed for Economics-System Science and other non-Engineering majors, is anticipated to be formally approved shortly for offering in the Engineering 120-129 series, and will then be recommended as a first course.

For purposes of the College breadth requirements, this major is considered to be in the division of Physical Sciences. Economics-System Science majors may not offer courses in Economics as breadth courses in the Social Sciences.

Minimum Standards. Each course taken in the major and in preparation for the major must be completed with a letter grade of "C−" or better, and in these courses a grade point average of at least 2.5 is required.

For further information,you are invited to contact Professor M. Aoki, 4531 Boelter Hall, 825-2360, or Professor J. Carlyle, 4532 Boelter Hall, 825-6830.

Intercollege Major in Ethnic Arts: Interdisciplinary Studies

This is an interdepartmental major open to students in both the College of Fine Arts and the College of Letters and Science.

The student remains in the college of his choice and fulfills the breadth requirements of that college. The student will normally elect his area of concentration when accepted into the major.

Counseling is available in the department of concentration, in the College of Letters and Science, and in the College of Fine Arts.

Admission to the major will be by special application to the Committee in Charge. For details of the major, see Ethnic Arts.

For further information, you are invited to contact Ms. Wendy Urfrig, 205 Women's Gym, 825-3951.

Major in Latin American Studies

For details of the curriculum leading to the degree of Bachelor of Arts, see Latin American Studies. Students should see an adviser in the Latin American Center, 10343 Bunche Hall.

Major in Mathematics-Computer Science

The Mathematics-Computer Science major, an alternate to the regular departmental major in Mathematics, consists of an integrated program of courses offered by the Department of Mathematics and the Computer Science Department (School of Engineering and Applied Science). In addition to the appropriate studies in Mathematics, the interdepartmental major permits study in the principal disciplines of Computer Science, including theoretical foundations of computer science, methodology of computing, computer system design, programming languages and systems, and computer applications. The Mathematics Department can arrange advising appointments and can provide current information on changes in requirements. The major leads to the Bachelor of Science degree.

The Pre-Mathematics-Computer Science major. Students who intend to enter the Mathematics-Computer Science major but have not completed the courses required as preparation for the major must enroll in the Pre-Mathematics-Computer Science major. Upon completion of these courses with: (1) a minimum grade of C in each course *and* (2) a 2.5 average or better in the courses required as preparation for the major, students may petition to enter the Mathematics-Computer Science major in the Undergraduate Mathematics Office. (Transcripts are required.)

Students with 60 or more quarter units of college credit will not be admitted to the pre-major unless they have completed one year of calculus and one computer programming course with grades of C or better.

Preparation for the Major. Mathematics 31A-31B, 32A-32B, 33A-33B. (This is the revised calculus sequence. Students who have completed 31C must complete the old sequence−31A-31B-31C, 32A-32B-32C.) Physics 8A, 8C or Physics 6A, 6B, Engineering 10C, Computer Science 20 and 30. Students who take Physics 8A, 8C are urged to take Physics 8B.

Students with substantial knowledge of programming in the PL/1 language may be exempted from Engineering 10C by passing a special placement examination. This examination is given during registration week each quarter by the Computer Science Department. Students seeking exemption from other courses should consult a mathematics-computer science adviser.

The Major. Fourteen courses, as follows. (1) Mathematics 110A, 115, 150B or 152A. (Normal order: 115, 110A, 152A or 150B. Students may petition to substitute course 117 for course 110A.) (2) Four additional courses in Mathematics chosen from courses numbered 110 or above. (Suggested: 118, 141AB, 142, 144, 152B or 150A, 153, 113, 114, 132, 140ABC.) (3) Computer Science M123B (Engineering M123B), 131, 141, 151A and 152A, 151B and 152B. (Recommended order for Hardware: 151A with 152A, 151B with 152B; recommended order for Software: 131, 141, M123B. 152A and 152B are laboratories counting 1/2 course each.) (4) One additional course chosen from Engineering 121C, M124A and 127B, and Computer Science courses numbered 100-198. Credit will not be allowed toward the major for more than one of Mathematics 140A, 141A, Computer Science M124A (Engineering M124A). Management 210A is an approved substitute for Mathematics 144.

Minimum Standards. Each course taken in the Mathematics-Computer Science major must be completed with a grade of C− or higher. (Students who do receive a D or F the first time they take a course must repeat the course. If a D or F is received the second time, they may not remain in the major unless they petition to do so and the petition is approved.) Furthermore, each student in the major must maintain an average of 2.0 or better in upper division Mathematics courses in the major and a 2.0 or better in the upper division Computer Science and Engineering courses in the major. Current UCLA students accepted into the Mathematics-Computer Science major before Fall 1980 must also meet these standards for the preparation for the major: (1) a minimum grade of C− in each course required as preparation and (2) a 2.0 average or better in all courses required as preparation.

Transfer students. Eligible transfer students will normally be admitted only to the pre-major. They should consult an adviser for the major at the earliest opportunity.

Honors opportunities. Department Honors in Mathematics-Computer Science will be awarded at graduation to those students who (a) have been admitted to the Mathematics-Computer Science Honors Program, (b) have completed a suitable special project or participating seminar as part of the program, and (c) at graduation, have a GPA of at least 3.6 in upper division Mathematics courses in the major and 3.6 in upper division Computer Science and Engineering courses in the major. Students may apply for admission to the program after having completed at least two upper division courses in Mathematics and eight upper-division units in Computer Science and Engineering courses in the major. Application forms and further information can be obtained at the Mathematics Undergraduate Office, Mathematical Sciences 6356.

The Departmental Scholar Program is available to interested and qualified students who wish to work towards a Master's Degree in either Mathematics or Computer Science. See Departmental Scholar Program.

For further information, you are invited to contact Sally Yamashita, Counselor, Mathematical Sciences 6356, 825-4701.

Major in Mathematics-System Science

This major is an alternate to the regular departmental major in Mathematics, and combines work in the Department of System Science (School of Engineering and Applied Science) with thorough preparation in mathematics, including those aspects significant in the theory of systems, information, and control. The major is appropriate for students who plan graduate study in mathematics, applied mathematics, or engineering, with emphasis on mathematically based research relevant to such fields as: communication, computation, control, operations research, optimization, stochastic processes, system analysis. The major leads to the Bachelor of Science degree.

Preparation for the Major. Mathematics 31A-31B, 32A-32B, 33A-33B, (this is the revised calculus sequence. Students who have completed 31C must complete the old calculus sequence—31ABC, 32ABC.), Engineering 10C, Physics 8A or 6A, 8C or 6B. Upper division or transfer students who have not had the opportunity to enroll in Mathematics 60 may substitute Engineering 127B by petition in which case, Engineering 127B may not be applied on the major.

The Major. Fourteen upper division courses as follows: (1) Mathematics 115 and 5 additional mathematics courses numbered between 110 and 199; (2) Engineering 121A and five courses in System Science selected from Engineering 120 through 129 and 199G; (3) One course, either in System Science selected from the list in (2), or in Computer Science; (4) One additional upper division course in Biology, Chemistry, Economics (numbered 101 or above), Mathematics (numbered between 110 and 199), Physics, or Psychology. Due to the similarity of Mathematics 144 and Engineering 129L (formerly 172A) credit will not be allowed towards the major for both courses. One of the thirteen courses must be either Mathematics 150A or Engineering 120A. (Credit will not be allowed towards the major for both.) Students who have taken the former Mathematics 60 (or an approved substitute by petition) are exempt from the requirement of 121A (such students need complete only thirteen other courses in groups (1) through (4)).

Some Recommended Selections. General, and preparation for graduate study: Mathematics 110A-110B, 131A-131B, 132; Engineering 120A or Mathematics 150A-150B; Engineering 121C, 128A, 128D, 129A. Automata, computability, and discrete systems: Engineering M123B, 128D, Mathematics 112B, 113, 114. Control, optimization, and computing methods: Engineering 121C, 122A, 128A, 129A; Mathematics 135A-135B. Communications and random processes; Engineering 120B; Engineering M120C or Mathematics M151; Mathematics 150B-150C.

For further information, you are invited to contact Ms. Sally Yamashita, Counselor, Mathematical Sciences Building 6356, 825-4701.

Major in Near Eastern Studies

This major is designed primarily for the following students: (1) those seeking a general education and desiring a special emphasis in this particular area; (2) those who plan to live and work in the Near East whose careers will be aided by a knowledge of its peoples, languages, and institutions, and (3) students preparing for academic study in the various disciplines pertaining to the Near East. Selection of courses should be decided partly by the student's own special objectives except that the same Near Eastern Language must be maintained in both lower and upper division.

Preparation for the Major. The first year course in Arabic Armenian, Hebrew, Persian or Turkish; candidates must also obtain a reading proficiency in French, German, Italian, Russian or Spanish as demonstrated by the completion of six quarter courses or their equivalent in the language of their choice. Candidates may substitute for the European language requirement Engineering 10S and one of Mathematics 50A, Psychology 41, Sociology 18, Political Science 6, Economics 40, plus one of Psychology 142, Sociology 116, Political Science 102, Economics 141, Geography 171. Also required are History 9D and four courses chosen from History 1A-1B-1C; Anthropology 5A, 5C; Economics 1, 2; Geography 3; Political Science 2, 3; Sociology 1.

The Major. Required: sixteen courses as follows: (1) Completion of the advanced level or its equivalent in Arabic, Armenian, Hebrew, Persian or Turkish; (2) History 106A-106B, 108A-108B, and two additional courses in the history of the Near East which are related to the major language; (3) four courses (two of which must be in the same discipline) from: Anthropology 110, 123; Art 101D, 104B-104C-104D; Economics 110, 111, 112, 190; Geography 187, 188; Political Science 132A-132B, 164, 165; Sociology 132, 133. This program may be modified in exceptional cases with the permission of the adviser.

For further information, you are invited to contact: The Von Grunebaum Center for Near Eastern Studies, 10286 Bunche Hall, 825-1181.

Major in Study of Religion

The UCLA major in the Study of Religion has a twofold purpose. In the first place it is designed to give students a broad humanistic perspective. It introduces students to several religious traditions of mankind and thus to an appreciation of the very nucleus of civilization in various periods of history and various parts of the world as well as to an understanding of fundamental human orientations. In the second place, the program asks the student to select one particular religious tradition for study at greater depth. Cohesion and integrity in the program are furthered by some courses dealing with philosophical problems in religion and with general anthropological reflections.

The program requires one year of language study which should be related to the major tradition of the student's concern. This mimimum requirement will allow every student to develop some idea of the basic problems in understanding religious texts. Students contemplating graduate study will generally do more than fulfill the minimum requirement.

It is hoped that in the future a group of courses will be added to the nine groups of the present program to allow for a concentration of sociological and philosophical problems of religion.

Preparation for the Major. Anthropology 22; Philosophy 2; History 4; two courses chosen from History 1A-1B-1C, 10A-10B, 9A-9B-9C-9D.

The Major. The major requires a minimum of 13 upper division courses and three related courses in foreign language. These must include: History 193A or 193E; Anthropology 140 or 144; two of the following: Philosophy 175, 191, 193, 195.

In addition a student is to select one of the following groups as his main area of study and is to take 3 courses in that main area, and 3 related courses in foreign language as indicated below. (The language courses may be either upper or lower division. If any requirements have been satisfied prior to admission to the program, they will be

honored upon the recommendation of the appropriate instructor in the program. Another language pertinent to the student's main area may be substituted with the consent of the committee in charge of the program. Among these languages are Hittite, Ugaritic, Syriac, Coptic, Persian, Armenian, French, German, Irish, Welsh.)

Group 1: Ancient Near East and Eastern Europe. Three courses selected from the following: History 193D; Ancient Near East 130, 150A, 150B, 150C, 170; Indo-European Studies 131, 132; Iranian 170. Three courses in one of the following languages: Ancient Egyptian or Akkadian.

Group 2: Indo-European Traditions. Three courses selected from the following: English M111D, M111E; History 193B; Classics 140; Scandinavian Literature 141; Iranian 170; Slavic M179. Three courses in one of the following languages: Sanskrit, Latin, Greek.

Group 3: Greece and Rome. Three courses selected from the following: Classics 161, 162, 166A, 166B; History 197 (Roman History: Christianity and Imperial Rome). Three courses in one of the following languages: Latin or Greek.

Group 4: Israel and Judaism. Three courses selected from the following: English 108A; History 191A-191B, 192A-192B; Hebrew 120, 130, 135, Hebrew 220 (Studies in Hebrew Biblical Literature); Jewish Studies 110, 150A-150B, 151A-151B, 199; Ancient Near East 170, 171. Three courses in Hebrew.

Group 5: Christianity. Three courses selected from the following: Philosophy 105, 106; English 108B; History 112A-112B, 119, 120, 121A-121B, 125B, 150A-C; Ancient Near East 170, 172; Classics M170A. Three courses in one of the following languages: Latin or Greek.

Group 6: Islam. Three courses selected from the following: Philosophy 104; History 106A, 107A-107B; Arabic 150A-150B; Iranian 150A-150B. Three courses in Arabic.

Group 7: South Asia. Three courses selected from the following: History 124B, 124E, 124F, 124G, 188A, 196A, 193B-193C, 197 (South Asian Religions); Oriental Languages 167; Iranian 170. Three courses in Sanskrit.

Group 8: Far East. Three courses selected from the following. History 193C; Oriental Lanaguages 172A-172B, 173, 174. Three courses in one of the following languages: Sanskrit, Chinese, Japanese.

Group 9: Traditional and Non-Literate Cultures. (Choose A or B)

A. Three courses selected from the following: Anthropology 107A-107B; Linguistics 150A-150B. Three courses in a language chosen in consultation with an instructor in this area.

B. Three courses selected from the following: Anthropology 105A, 108, 207, M257; Folklore and Mythology M111, M123A, M125, M129, 130. Three courses in a language chosen in consultation with an instructor in this area.

The student will select six courses in traditions chosen from at least two Groups outside his main area of study, excluding foreign language courses.

Honors Major. Honors in the interdepartmental major, Study of Religion, provides exceptional students with an opportunity to do independent research under the tutorial guidance of a faculty member associated with the interdepartmental program in the Study of Religion. A student admitted to Honors by the Committee in Charge of the Major should take three 199 courses under the guidance of the sponsoring professor. These courses will be taken in the student's senior year and will count as part of the regular requirement of sixteen upper division courses. Honors culminates in an Honors Thesis which the candidate should be capable of defending before his or her sponsoring professor and at least two members of the Committee in Charge of the Major.

In order to qualify for admission students should have a minimum grade point average of 3.4. They should consult the sponsoring professor of their choice and with his or her approval make their desire known to the Committee in Charge of the Major. They should do so preferably before the end of their junior year, and no later than the beginning of their senior year. The 199 courses designed for the program and the thesis topic should be approved by the Committee.

For further information, you are invited to contact the Department of Philosophy, 321 Dodd Hall, 825-4641.

Requirements for the Bachelor's Degree

The degree of Bachelor of Arts or Bachelor of Science will be granted upon the following conditions:

1. The candidate shall have completed for credit 45 courses (180 units) or 45½courses (182 units) if English 1 completed Fall, 1979 or later, of which at least 160 units shall be in courses taken from the Letters and Science List of Courses, and at least thirteen courses (52 units) shall be upper division courses (numbered 100-199 only).

The following *Credit Limitations* apply for all students enrolled in the college.

a) **After completing 26 and ¼ courses (105 units) toward the degree (in all institutions attended) the student will be allowed no further unit credit for courses completed at a community college.**

b) Not more than 4 units in Kinesiology activities may be counted toward the bachelor's degree. (Transfer students with credit for more than 4 units of Kinesiology activities should be aware of the 4-unit limit on this credit.)

c) Not more than two courses (8 units) in 300 and 400 courses may be counted toward the bachelor's degree. Credit is not granted for X300 and X400 courses taken in University Extension unless the approval of the Dean has been obtained by petition prior to enrollment. Such petitions are rarely granted.

d) Not more than 12 units of Dance 70, 71, 170, and 171 and Music 80 and 81 taken at UCLA may be counted toward the bachelor's degree. *Letters and Science students electing to take these courses must enroll in these courses Pass/Not Pass.*The Music courses are limited to one per student per quarter. These courses will not be counted in the limits on Pass/Not Pass enrollment. (N.B. such courses are excluded from the Letters and Science List.) For further information on these limits, see Courses Taken Passed/Not Passed.

e) Credit earned through the College Level Examination Program (CLEP) after June 30, 1974, will not be counted toward the bachelor's degree in the College.

f) Advanced Placement Test Credit (AP) earned after June 30, 1974, will not apply toward a degree in the College, except for students at the freshman level with not more than 36 units of credit already earned toward the bachelor's degree at the time of the examination.

g) Not more than 24 units of credit in Aerospace Studies, Military Science, or Naval Science may be applied to the 180/182 unit minimum required for the Bachelor's degree.

h) Senate regulations limit the undergraduate student to two courses (8 units) of credit per quarter in special independent study courses. The total number of units allowed in such courses for a letter grade is 16. Also, see specific restrictions under each departmental listing.

i) For students entering Fall 1978 and thereafter and effective with Chemistry 2 taken Fall Quarter 1978 or thereafter (at UCLA or another institution), no credit will be granted toward the bachelor's degree for Chemistry 2 after one year of high school chemistry completed with grade C or better.

Students enrolled in UCLA prior to Fall 1978 may take Chemistry 2 with full unit and grade point credit, without petition.

j) For students entering Fall 1978 and thereafter and effective with foreign language courses taken Fall Quarter 1978 or thereafter (at UCLA or another institution), no credit will be granted toward the bachelor's degree for college foreign language courses equivalent to quarter level 1 and/or 2 if the equivalent of 2 years of the same language was completed with satisfactory grades in high school. The maximum deduction will be eight units (4 units per course).

Students enrolled in UCLA prior to Fall 1978 may repeat high school language with full unit and grade point credit, without petition.

k) A student in Letters and Science who is enrolled in fewer than 12 units may *not* elect the pass/not pass option for that term.

l) No credit will be allowed for more than one lower division course in statistics or for more than one sequence of such courses.

m) A student participating in the Education Abroad Program may receive toward the Bachelor's Degree a maximum of 48 units of credit in addition to the 8 units maximum allowable for the Intensive Language Program.

1. The candidate shall have attained at least a "C" (2.00) grade-point average in all courses undertaken in this University. **A student is required to satisfactorily complete a minimum of 180 units for the bachelor's degree. A maximum of 208 units is allowed. After having credit for 208 units, he will not be permitted to continue, except in rare cases approved by the Dean.** A student with credit for English 1 taken Fall, 1978 or later will be required to satisfactorily complete 182 units. A maximum of 210 units is then allowed.

2. The candidate shall have completed the general University and College requirements.

3. The candidate shall have met the University requirement in American History and Institutions.

4. The candidate shall have satisfied the requirements of a major (including preparation for the major) in the College of Letters and Science. Before the degree is granted, the department or committee in charge of the student's major must certify that the student has completed the requirements for the major.

5. **Of the last 48 units completed for the bachelor's degree, 36 must be earned in residence in the College of Letters and Science on this campus. Not more than 16 of the 36 units may be completed in summer session on the Los Angeles campus. While registered in this College you must complete at least six upper division courses (24 units), including four courses (16 units) in the major. In departmental majors, the department will specify how many of these four required courses shall be taken in the department. This residence regulation applies to all students, including those entering this University from other institutions or from University Extension and those transferring from other colleges of this University. Students transferring from a College of Letters and Science on another campus of the University may petition for an exception to this rule.**

Concurrent enrollment in courses offered by University Extension (including correspondence courses) or at other institutions is not permitted except in extraordinary circumstances, and no credit will be given for such courses unless the approval of the Dean has been obtained by petition prior to enrollment.

The degree of Bachelor of Arts shall be granted to all candidates who qualify for the bachelor's degree, except that the degree of Bachelor of Science shall instead be granted to candidates who have completed such majors as the Executive Committee of the College may designate as leading to that degree.

Minimum Progress

Effective Fall 1974, an undergraduate student in the College of Letters and Science who does not pass at least 36 units during any three consecutive terms shall be placed on probation, and an undergraduate student who does not pass at least 32 units during any three consecutive terms shall be subject to disqualification from further registration at the University. Courses bearing solely a letter designation may be used to meet this requirement only during the first three quarters of residence. Petitions for exception to these requirements must be approved by the Dean and may be granted only on account of poor health or of regular outside occupation requiring half-time or more. *Consult the College of Letters and Science (Window 4, 1312 Murphy Hall) before attempting to remove unit shortages.*

Letters and Science Course List Requirement

Beginning Fall 1978, at least 160 units, including 52 units in upper division courses offered for the Bachelor's degree, must be selected from the Letters and Science List of courses. Any course not included on this list, but required or accepted as part of a major shall, for students offering that major at graduation, be treated as if it were on the list. *This regulation applies to all students who have successfully completed less than 36 quarter units prior to Fall Quarter, 1978.*

Courses are applicable only if taken during a year in which they appear on the list. Courses offered for "no credit" and those numbered above 199 are automatically excluded.

All undergraduate courses in the College of Letters & Science may be applied **EXCEPT:**

Aerospace Studies 1A, 1C, 130A-130B-130C

English 136A-B-C

English as a Second Language 33A-33B, 34, 36 103K, 106K, 107K, 109K, 111K, 122K

Journalism 101A-B.

Mathematics 1A, 38A-B, 104

Military Science 11, 111, 112, 113, 125

Naval Science 1A, 1B, 20B, 102B, 102C

The following courses in departments outside the College of Letters & Science are applicable:

Architecture and Urban Planning 190, 191, 192

Art 50 through 56, 101A through 122

CED courses that are formally cross-listed with Letters and Science Departments.

Dance 111A-B-C, 140A-B-C, 151A-B

Education 100, 102, 112, 125, 147

Engineering 11, 12, 102, 107A, 120A-B-C, 121C, 122A-B, 123A-123B, 124A, 125A-B, 127B, 128A, 128D, 129A, 130A, 137A, 155, 171A, 171C, 172A, 180A-180B, 191A, 192A-192B-192C, 193A

Freshman and Sophomore Professional School seminars—consult the College of Letters and Science concerning applicability.

Management 100, 101, 108, 111, 115, 116A-B, 150

Music 2A-B-C, 130 through 143A-B, M144, 145 146A through 149, 152, M154A-154B, 157, 158, 159, M180, M181, M183, 187, 188A-Z, 189

Public Health—All courses except 140A-B, 177

Theatre Arts—Theatre 5A-B-C, 101 (2 units), 102A through 105; M.P.T.V. 106A-106B-106C-106D-106E, 108, 110A, 113, 114, 130A-130B.

General University and College Requirements

Unless your chosen major demands unusually heavy work in lower division courses, it will be to your advantage to complete these requirements as soon as possible—normally within your first 24 courses (96 units).

"Subject A"

All students are required to demonstrate proficiency in the fundamentals of English composition (Subject A). Students from other countries whose native language is not English will be instructed by the Office of Admissions to take the Entrance Examination in English as a Second Language and therefore are not required to meet the regular Subject A requirement. For further regulations concerning Subject A, see "degree requirements" earlier in this section.

American History and Institutions

You can find details about this requirement under "degree requirements" earlier in this section of the Catalog.

Foreign Language

The College of Letters and Science does not have a college-wide requirement for foreign language. Students should consult this catalog and departments or committees administering curricula concerning the requirement of specific majors. Credit will not be allowed for completion of a less advanced course in grammar and/or composition after completion of a more advanced course.

For students entering Fall 1978 and thereafter and effective with foreign language courses taken Fall Quarter 1978 or thereafter (at UCLA or another institution), no credit will be granted toward the bachelor's degree for college foreign language courses equivalent to quarter level 1 and/or 2 if the equivalent of course level 2 years of the same language was completed with satisfactory grades in high school. The maximum deduction will be eight units (4 units per course). Students enrolled in UCLA prior to Fall 1978 may repeat high school language with full unit and grade point credit, without petition.

College credit for the mother tongue of a foreign student and for its literature is allowed only for courses taken in native institutions of college grade, or for upper division and graduate courses actually taken at the University of California or at another English-speaking institution of approved standing.

English Composition

You may satisfy this requirement with one course from English 3, 4, Humanities 2A, 2B, or CED 3. (Students may not receive credit for both English 3 and CED 3). A grade of "C" or better is required; a grade of "C−" is not acceptable. A course in English Composition taken for a "Pass" grade does not satisfy this requirement. Courses in the above group may be applied on the Humanities breadth requirement if they are not used to satisfy the English Composition requirement.

The composition requirement may also be satisfied with a score of 4 or 5 on the CEEB Advanced Placement Test in English, or by passing a proficiency examination in English Composition set and administered by the Department of English. To be eligible for this proficiency examination an entering student must have a score of 660 on the CEEB English Achievement Test. *Each student should satisfy the composition requirement before having completed 90 quarter units. Students who fail to do so must have their study lists approved by the Dean.*

Special Regulations for Transfer Students

If you have completed an English Composition course graded "Pass" you may take the English Proficiency Examination upon presentation of a letter of authorization to the English Department. The letter may be obtained from the College of Letters and Science.

Transfer students who have completed with grade "C" or better a college composition course that has not satisfied the College of Letters and Science requirement in English composition may be eligible for the proficiency examination after an interview by the English department. Eligible students must register for the examination in the English Department office prior to the first day of enrollment in each quarter.

If you have credit for 90 or more units and have not completed a course that satisfies the College of Letters and Science requirement in English composition, but are exempt from the Subject A requirement you must include an acceptable composition course in the study-list of your first quarter of residence in the College. If you are required to take the course in Subject A you should, upon completion of that requirement, include an acceptable composition course in the study-list of your second quarter of residence in the College.

A bona fide student from abroad, who has learned English as a foreign language and in whose secondary education English was not the medium of instruction, may satisfy this requirement by completing English 33"C" with a grade of "C" or better when that course is required. If English 33C is not required, the student from abroad may take either English 3, 36, or 106J to satisfy the composition requirement.

Units evaluated by the Office of Admissions as English Composition but not sufficiently advanced to satisfy the College of Letters and Science requirement, can be applied on the Letters and Science breadth requirements as Humanities only if specifically approved by the Dean. Advanced Placement English with Grade 3 has such approval and requires no petition by the student. ESL 33A-33B-33C and advanced standing English for Foreign Student courses may *not* be applied on the Humanities Division.

Breadth Requirements

Breadth requirements are designed to acquaint you with areas of inquiry outside your own major. They provide a unique educational opportunity to bring perspectives from many fields together in a unified approach to learning.

Students who completed less than 36 quarter units before the Fall 1978 term must meet the requirements which follow. Those who completed 36 or more units before Fall 1978 may fulfill either these requirements or those described in the 1977-78 General Catalog.

You will satisfactorily complete nine courses (36 quarter units) distributed among the three divisions ouside the division of your major with at least two courses in each division. Acceptability of courses for these requirements are subject to the following general conditions:

(a) All language courses level 4 or above may be applied as Humanities courses. Level 1, 2, and 3 courses may be used, provided that you have completed the level 4 course in the same language. Conversational courses may not be used to satisfy the Humanities requirement. Breadth Requirement credit for courses in languages which do not offer level 4 courses is contingent on the approval of the Dean.

(b) The course used to satisfy the English Composition Requirement may not also apply on the Breadth Requirements.

(c) Courses required to satisfy the Major or other courses taken in the major department may not be used to satisfy Breadth Requirements. However, courses outside the division of the major which are required as preparation for a major may be used to satisfy these requirements. For information on satisfying Breadth Requirements if you are following a double major, see the section on double majors.

(d) Courses in other colleges and schools at UCLA may be used to satisfy the Breadth Requirements, if so designated by the Executive Committee of the College.

(e) Freshman and Sophomore seminars taught in departments in the College of Letters and Science apply. Seminars taught in other Colleges and professional schools may apply only by petition.

Transfer students should consult the College of Letters and Science concerning application of advanced standing courses on the breadth requirements.

Consult individual course descriptions to avoid possible duplication of courses.

Courses numbered in the 300 and 400 series may not be applied on the breadth requirements. Courses numbered 199 and in the 200 series may be applied on breadth requirements only by petition approved by the Dean of the College of Letters and Science.

You can determine which—and how—UCLA courses apply to your breadth requirements by studying the list of courses (A-D) below.

For the purposes of these requirements, departmental and interdepartmental majors are classified in the following divisions.

Humanities

African Languages

Ancient Near Eastern Civilizations

Arabic

Chinese

Classics

English

English-Greek

English-Latin

Ethnic Arts

French

French and Linguistics

German

Greek

Hebrew

Italian

Italian and Special Fields

Japanese

Jewish Studies

Latin

Linguistics

Linguistics and Computer Science
Linguistics and English
Linguistics and French
Linguistics and Italian
Linguistics and Oriental Languages
Linguistics and Philosophy
Linguistics and Psychology
Linguistics and Scandinavian Languages
Linguistics and Spanish
Near Eastern Studies
Philosophy
Portuguese
Scandinavian Languages
Slavic Languages and Literatures
Spanish
Spanish and Linguistics
Study of Religion

Physical Sciences

Astronomy
Atmospheric Sciences
Biochemistry
Chemistry
Cybernetics
Economics-System Science
General Chemistry
General Physics
Geology
Geology (Engineering Geology)
Geology (Geochemistry)
Geology (Paleobiology)
Geology (Non-renewable Natural Resources)
Geophysics (Applied Geophysics)
Geophysics (Geophysics and Space Physics)
Mathematics
Mathematics-Applied Science
Mathematics-Computer Science
Mathematics-System Science
Physics

Social Sciences

Afro-American Studies
Anthropology
Business-Economics
Chicano Studies
Communication Studies
East Asian Studies
Economics
Geography
Geography-Ecosystems
History
Latin Smerican Studies
Political Science
Sociology

Life Sciences

Biology
Kinesiology
Microbiology
Psychobiology
Psychology
Quantitative Psychology

Note: The following courses in the College of Letters and Science will *not* apply on breadth requirements: Anthropology 173A-173B; Biology 30; Economics 40; English 136A-136B-136C; English as a Second Language 33A-33B-33C; 34, 36, 103J, 103K, 106K, 107K, 109K, 111K,, 122K; Journalism 101A-101B, 180, 182A-182B; Kinesiology Activities courses; Mathematics 1A, 38A-38B, 104; Psychology 41, 131A-131B, 142; Sociology 18.

A. Physical Sciences

Any courses for which you are eligible in Astronomy, Atmospheric Sciences, Chemistry, Earth and Space Sciences (except Earth and Space Sciences 20 if used on Life Science, 115, 116, M117, and M118), Mathematics (except Mathematics 1A, 38AB, 104), and Physics. Also, Computer Science 20; Engineering 11; Geography 1, M102, 104, 105, 106; Economics 141, 144, 145, 146, 147; Linguistics 145; Philosophy 125, 128A-B, 134, and 135. (Also applicable: either History 3A *or* History 3B if not applied on the Social Science Division. NOTE: No more than one of History 3A, 3B, or Physics 10 may count towards the breadth requirement in the physical sciences.)

B. Life Sciences

Any courses for which you are eligible in Bacteriology, Biology (except Biology 30), and Kinesiology (except Kinesiology Activities courses, 106, 170A-170B and 175). Also applicable, Anthropology 1A, 1B, 11, M12 (same as Public Health M12), 130A-130B, 132; Earth and Space Sciences 20 if not applied as Physical Science, 115, 116, M117, and M118; Geography 2, 5, 108, 109, 110, 112; Psychology 15, 110, 111, 115, 116, 117, 118A-118B-118C, 120 and 121. (Also applicable History 3C. Course may also apply on the Social Science Division,, but not on both).

C. Social Sciences

Any courses for which you are eligible in Anthropology (except Anthropology 1A, 1B, 11, M12 (same as Public Health M12), 130A-130B, 132, 173A-173B), Asian American Studies, Communication Studies (except Communication Studies 142 and 175), Economics (except Economics 40, 141, 144, 145, 146, 147), Geography (except Geography 1, 2, 5, M102, 104, 105, 106, 108, 109, 110, 112, 171), History, (History 3A or 3B may apply as Social Science or Physical Science, but not on both; History 3C may apply as a Social Science *or* Life Science, but not on both). Indo-European Studies M131, M132, Political Science, Psychology (except Psychology 15, 41, 110, 111, 115, 116, 117, 118A-118B-118C, 120, 121, 131A-131B, and 142), and Sociology (except Sociology 18). Also applicable: Journalism (UCLA courses only) (except Journalism 101A-101B, 180, 182A-182B); Kinesiology 106, 109, 170A-170B, 175; Linguistics 100, 103, 170; Women's Studies 100, M148.

D. Humanities

Any courses for which you are eligible in Classics, Communication Studies 142 and 175; English (except English 136A-136B-136C); English as a Second Language (except English as a Second Lanuage 33A-33B-33C, 34, 36, 103J, 103K, 106K, 107K, 109K, 111K, 122K); Folklore, French, Germanic Languages, Humanities, Indo-European Studies 140, M150, Italian, Lingusitics (except 100, 103, 145, and 170), Near Eastern Languages, Oriental Languages, Philosophy (except 125, 128A-128B, 134, and 135), Slavic Languages, Spanish and Portuguese, and Speech. (Foreign language conversation courses may be applied to plan "A" breadth only.)

Acceptable courses in the College of Fine Arts are:

Art 50, 51, 52, 53, 54, 55, 56, 101A-101D, 103A-103D, 104B-104D, 105A-105E, 106A-106C, 108A-108B, 109A-109D, 110A-110D, 112A-112B-112C, 114A-114D, 115A-115C, 118A-118D, 119A-119C, 120A-120B-120C, 121A-121B, 122.

Dance 140A-140C, 151A-151B.

Integrated Arts 1A-1C.

Music 2A-2C, 130, 131A-131B, 132A-132B, 133, 134, 135A-135C, 137A-137B, 138, 139, 140A-140C, 141, 142A-142B, 143A-143B, M144, 145, 147A-147B, 152, M154A-154B, 157, 159, M180, M181, M183, 188A-188Z, 189.

Theater Arts 5A-5C, 102A-102B-102D-102E, 103A-103B, 104A-104B, 105, 106A-106E, 108, 110A, 113, 114, 130A-130B.

Old Requirements

Students who have completed 36 or more quarter units prior to the beginning of Fall Quarter 1978 may choose to complete the new requirements or Plan A or Plan B as described below.

Courses taken prior to the Fall Quarter 1978 may be applied according to the list in the Catalog of the year in which the course was taken.

Students reentering the College after an extended absence may petition the Dean of the College to graduate under the breadth requirements of Catalogs published prior to Fall 1979.

Plan A

Option 1: You must satisfactorily complete three courses in each of the three divisions outside the division of your own major. Courses sponsored by the Council on Educa-

tional Development and cross-listed with a department may apply in the division of that department.

Option 2: You must satisfactorily complete three courses, excluding elementary and intermediate foreign language, in each of two divisions outside the division of your own major, and in addition complete course 5 in one foreign language.

Successful completion of a proficiency examination that is administered by a foreign language department (at UCLA) certifying proficiency at the level of course 5 is acceptable on this option. Courses authorized by the Academic Senate Council on Educational Development and cross-listed with a department may apply in the Division of that department.

For the purposes of both options, courses in your major division may not be used to satisfy any of these requirements. In no case may courses in your major department or courses required for the major be used to satisfy these requirements. Courses in other divisions required in preparation for the major may be used to satisfy these requirements. Courses used exclusively to satisfy College breadth requirements may be taken on a "Pass/not pass" basis. Acceptable courses in the College of Fine Arts applicable as humanities are listed above under "H".

Plan B

You must satisfactorily complete seven courses in any division outside the division of your own major, and either one course in each of the two remaining divisions or two courses in one of the remaining divisions. The divisional requirements may be satisfied according to **"A-D"** above. Acceptable courses in the College of Fine Arts applicable as humanities courses are listed under **"D."**

No courses in foreign language will apply on Plan B unless you have passed course 5 in one foreign language at the college level or have successfully completed a foreign language proficiency examination at level 5. (The examination must be administered by a UCLA foreign language department). If you have completed course 5 in one foreign language, then all elementary and intermediate foreign language courses taken at the college level are acceptable for satisfaction of this requirement under the division of humanities.

Courses required for the major or in preparation for the major may not also be used to satisfy this requirement. In no case may courses in your major department be used to satisfy this requirement. Courses used to satisfy College breadth requirements may be taken on a pass/not pass basis.

Only CED courses that are formally cross-listed with Letters and Science Departments may be applied to the Breadth Requirements.

Credit for Advanced Placement Tests

You may fulfill a part of the College requirements with credit allowed at the time of admission for College Entrance Examination Board Advanced Placement Tests with scores of 5, 4, or 3. Advanced Placement Test credit will fulfill requirements in the College of Letters and Science as follows:

TEST	CREDIT ALLOWED ON COLLEGE REQUIREMENTS
Biology	Biology 2—4 units; unassigned, 6 units (Life Science)
Chemistry	Chemistry General:10 units (Physical Science)
English	(Score 3) Composition and Literature: 10 units (Subject A and 10 units Humanities)
	(Score 4 or 5) English 3: 4 units; English 4: 6 units
Foreign Language	Course 5: 10 units (Humanities)
Foreign Literature	Literature: 10 units (Humanities)
History—American	History 7A-B: 10 units (Social Science and American History and Institutions)
History—European	History 1C: 4 units; European History, 6 units (Social Science)
Mathematics (AB test)	Mathematics 31A: 5 units (Physical Science)$_1$
Mathematics (BC test)	Mathematics 31AB: 10 units (Physical Science)$_1$
Physics (B test)	Physics General: 10 units (Physical Science)$_2$
Physics (C test)	Physics General: 5 or 10 Units (Physical Science)$_2$

Some portions of Advanced Placement Test credit are evaluated by corresponding UCLA course number. If a student takes the equivalent UCLA course, a deduction of UCLA unit credit will be made prior to graduation.

[1]Students who pass the Mathematics AB examination with a score of 3, 4, or 5 receive 5 units of credit for Mathematics 31A. Students who score 3, 4, or 5 on the Mathematics BC examination will receive 10 units of credit for Mathematics 31AB. Students who take both examinations will receive a maximum of 10 units of credit.

[2]Students who pass the Physics B examination with a score of 3, 4, or 5 will receive 10 units of credit for General Physics. Students who score, 3, 4, or 5 on the Physics C, part I examination will receive 5 units of credit for General Physics. Students who take Physics C, parts I and II will receive 10 units of credit for General Physics. Students who take both the Physics B and C examinations will receive a maximum of 10 units of credit.

Any student who has completed 36 quarter units at the time of the examination will receive no Advanced Placement test credit.

Credit by Examination

Within the College of Letters and Science, eligibility for credit by examination is for the most part limited to students who have established their superiority by being approved as Departmental Scholars, or by their participation in a departmental honors program, or by their admission to the Division of Honors.

Students may petition for credit by examination for one course at a time. The examination for that course must be taken successfully before a student may petition again for credit by examination in another course. Petitions for credit by examination are available only through an appointment with a College counselor. A $5 fee will be charged for each petition. Approval is given or withheld by the Dean of the Division of Honors who may limit the number of such petitions any student presents.

Preparing for a Professional School

The programs that follow are *not* degree programs in the College of Letters and Science. The purpose of each grouping of courses is to assist you if you plan to apply to a professional school at the end of your sophomore (90 units) or junior (135 units) year.

If you are not accepted by a professional school, you must declare a major in the College of Letters and Science and be able to complete the requirements for a degree without exceeding 208 units.

New students entering in these curricula will be listed as Undeclared Majors and will be advised in the College unless an adviser is named below in the presentation of the curriculum.

Information and counseling on preparing for health care professional school together with assistance in putting together an application at the time of applying is available through the Pre Health Care Advising Office, College of Letters and Science. Open counseling sessions are held weekly for premeds, predents, prenurses, and other prehealth students (time and place are announced in the "campus events" section of the *Daily Bruin* and posted outside of 1332 Murphy Hall or call 825-1817). For counseling on preparing for other health care professional schools, pay them a visit. Application blanks for AMCAS, MCAT, DAT, etc. may be obtained from 1332 Murphy Hall, Window 9.

ASK counselors are on duty each week day in the Court of Sciences by Young Hall. ASK counselors can answer some basic prehealth care questions and give referrals.

In addition, specific advisors in "pre-health" are listed in the "academics: resources to help you" section of this catalog.

Predental Curriculum: Three Years

The College of Letters and Science offers a predental curriculum designed to fulfill the basic educational requirements for admission to several dental schools and the general educational requirements of the College of Letters and Science. It is advised that you determine and satisfy the specific requirements of the dental schools to which you expect to apply.*

You will be more adequately prepared for the predental curriculum if the following subjects are taken in high school: English, history, mathematics (algebra, geometry and trigonometry), chemistry, physics, and foreign language.

The 135 quarter units of work required for admission to the School of Dentistry include the following:

General University Requirements: (1) Subject A; (2) American History and Institutions.

Specific UCLA School of Dentistry Requirements:** (1) English 3 or 4; (2) Sciences: Chemistry 11A, 11B, 11BL, 11C, 11CL, or Chemistry 13A-13B; 21, 23, 25; Physics 3A-3B-3C or 6A-6B-6C or 8A-8B-8C; Biology 5, 7, 8, 8L, 138 and Psychology 10.

Social sciences and humanities should also be included in the 135 quarter units for which you may consider such courses as anthropology, history, economics, psychology, political science, appreciation of art and/or music, and philosophy.

For further information, consult "Admissions Requirements of U.S. and Canadian Dental Schools" AADS, 1625 Massachusetts Avenue, N.W. Washington, D.C. 20036.

Predental Hygiene Curriculum: Two Years†

The University offers a four-year program in dental hygiene leading to the degree of Bachelor of Science. The first two years may be taken at Los Angeles; the last two years must be taken in the School of Dentistry in San Francisco. Admission to UCSF is by competitive application.

The 90 quarter units of work required for admission to the School of Dentistry include general University requirements and additional specific requirements, as follows (the numbers in parentheses refer to courses at the University of California, Los Angeles, which fulfill the requirements):

Curriculum Requirements. (1) Subject A; (2) American History and Institutions. (The examination in American History and Institutions may be taken in the School of Dentistry, but it is preferable to satisfy the requirements in the predental program); (3) English 3 or 4; (4) Chemistry 11A, 11B, 11BL, 11C, 11CL or 13A-13B; 21, 23, 25; (5) Biology 5, 7, 8 and 8L; (6) Physics 3A-3B-3C or 6A-6B-6C or 8A-8B-8C (7) Psychology 10, and one additional psychology course; (8) 20 units in Social Sciences and Humanities (including foreign language).

Premedical Studies: Four Years

Students who intend to apply for admission to a medical school and who wish to complete the requirements for a bachelor's degree before such admission should select a major within the College. *Medical schools have no preference as to major. You should choose the major in which you are most interested and can do best.* In addition to fulfilling the requirements of the chosen major, you are advised to ascertain and satisfy the specific requirements for medical schools to which you expect to apply.

High school preparation for premedical studies at the University should include: English, three units; United States history, one unit; mathematics, three and one-half units; chemistry, one unit; physics, one unit; biology, one unit; foreign language (preferably French or German), two units. It is desirable that a course in freehand drawing be taken in high school.

Usually the following courses are required for admission to the UCLA medical school: English, 12 quarter units including at least one course in English Composition; Chemistry 11A, 11B, 11BL, 11C, 11CL or 13A-13B; 21, 23, 25; Physics 3A-3B-3C or Physics 6A-6B-6C or 8A-B-C; Biology: Two years of college biology to include the study of cellular, molecular, developmental, and genetic biology, including at least one year of upper division courses. Required lower division courses are 5, 7, 8, 8L. Suggested upper division courses selected from the following: 110, M132 (not open to students with credit for 8-8L), 134, 138, 144, 166. Courses in physical chemistry and calculus are strongly recommended. Course requirements for admission to other University of California medical schools vary slightly (e.g., UCLA and UCSD require genetics). Requirements for admission to medical schools outside the University of California also vary somewhat so that students should consult the publication, "Medical School Admission Requirements, USA and Canada", Association of American Medical Colleges, 1 Dupont Circle, N.W., Washington, D.C. 20036. Also consult "The Education of Osteopathic Physicians", AACOM, 4720 Montgomery Lane, Suite 609, Washington, D.C. 20014. In addition, look at "The New MCAT Student Manual" also an AAMC publication at the above AAMC address.

Prenursing Curriculum: Two Year

The University offers a four-year course leading to the Bachelor of Science degree in nursing. The prenursing curriculum in the College of Letters and Science is designed to prepare students for the program in the School of Nursing. You should apply to the School of Nursing when you have completed or have in progress 84 quarter credits of liberal arts courses with a grade-point average of at least 2.8. Since you must apply during the Fall of the year prior to the year in which you wish to be enrolled, you must present your proposed curriculum for the remaining quarters.

The curriculum as set forth below includes the specific requirements for application to the School of Nursing. Enrollment in the School is limited.

Since students who have completed the two year prenursing curriculum cannot be assured of admission to UCLA's School of Nursing, all prenursing students should become familiar with the admission requirements of other nursing programs. These requirements vary from school to school so *it is imperative that prenursing students obtain this information as early in their college careers as possible.* Contact schools of nursing directly and attend open counseling sessions in UCLA's School of Nursing (times posted in the Office of Student Affairs, 12-139 Center for the Health Sciences) and those given by the Pre Health Advising Office (posted by 1332 Murphy Hall) or call 825-1817). Students who are not accepted by the School of Nursing must declare a major in the College of Letters and Science to be admitted to the College.

New students admitted to the College in this curriculum will be counseled in the College as Undeclared Majors, but may seek additional advisement during posted Open Counseling sessions. Students in the College who do not transfer to the School of Nursing must declare a major and be able to complete all degree requirements within 208 units.

Prenursing Requirements:(1) English 3 or 4; (2) Chemistry 11-15-15L (3) Biology 5 and 7; (4) Anthropology 5A; (5) Sociology 1 or 101; (6) Psychology 10; (7) Psychology 15; (8) Bacteriology 10; (9) Physics 10 or one year of high school physics with laboratory; (10) Public Health 111 or 115 or 193; Kinesiology 12 and 13. Recommended electives in the social and biological sciences.

Preoptometry Curriculum: Two Years

A two-year program designed to prepare students for admission to optometric schools may be completed in the College of Letters and Science. Students planning to transfer to the School of Optometry at Berkeley are advised to contact the Dean of the School of Optometry, University of California, Berkeley, California 94720 as early in their preprofessional studies as possible.

You will be adequately prepared for preoptometric studies if you have taken the following subjects in high school: English, history, mathematics (algebra, geometry and tri-

*School of Dentistry, see Pre-Dental Requirements.

**Other dental schools may have different requirements.

†The School of Dentistry reserves the right to limit enrollment if applications exceed available facilities, and to require interviews and aptitude tests if they are necessary in the selection of the class. For further information see the Announcement of the School of Dentistry, San Francisco.

gonometry), chemistry, physics and foreign language.

The 135 quarter units of work required for admission to the School of Optometry, Berkeley, include the following:

General University Requirements—(1) Subject A, (2) American History and Institutions.

Specific UCB School of Optometry Requirements—(1) English 3 and 4; (2) Chemistry 11A-11B-11BL-11C-11CL or 13A-13B; 21; (3) Physics 3A-3B-3C or 6A-6B-6C or 8A-8B-8C; (4) Biology 5, 7, 8, 8L; Psychology 10; (5) Mathematics 3A-3B-3C or Mathematics 31A-31B-31C and 50A or Psychology 41.

The balance of the 90 quarter units required for admission may be selected from the social sciences, foreign languages and the humanities.

Prepharmacy Curriculum: Two Years

The School of Pharmacy on the San Francisco campus of the University offers a four-year curriculum leading to the degree of Doctor of Pharmacy. To be admitted to this curriculum you must have met all requirements for admission to the University and have completed, with an average grade of C (2.00) or better in the University of California or in another institution of approved standing, at least 90 quarter units of the program set forth below. Students taking the prepharmacy work at the University of California normally will be enrolled in the College of Letters and Science. If taken elsewhere, the courses selected must be equivalent to those offered at the University of California. In order to complete prepharmacy studies in the minimum time, you should complete elementary chemistry, trigonometry, and a full year of intermediate algebra in high school.*

Curriculum Requirements: First Year. (1) Subject A; (2) English 3 and 4; (3) Chemistry 11A-11B-11BL-11C-11CL or 13A-13B; (4) Trigonometry and intermediate algebra (if not completed in high school); (5) Electives: six or seven elective courses should be selected from courses in foreign language, social sciences, and humanities offered in satisfaction of the lower division requirements of the College.

Curriculum Requirements: Second Year. (1) Biology 5, 7, 8, 8L; (2) Physics 3A-3B-3C or 6A-6B-6C or 8A-8B-8C; (3) Mathematics 3A-3B-3C or 31A-31B-31C; (4) American History and Institutions; (5) Electives, two-three.

*Students who have completed the two-year prepharmacy curriculum at Los Angeles cannot be assured of admission to the School of Pharmacy of the San Francisco campus. When the number of qualified applicants for the Doctor of Pharmacy curriculum exceeds the available facilities, selection will be made on the basis of scholarship as determined from the College record. A personal interview may be required. Applications for admission to the School of Pharmacy, San Francisco campus, must be filed at the latest by 1 November preceding the September of proposed admission. Send to the Office of Student Affairs, School of Pharmacy. Blanks may be obtained from the office of the Director of Admissions, University of California Medical Center, San Francisco 94122. For further information see the *Announcement of the School of Pharmacy, San Francisco,* which may be obtained from the Dean, School of Pharmacy, University of California Medical Center, San Francisco 94122.

Prephysical Therapy Curriculum: Three or Four Years

Students who intend to apply for admission to a Physical Therapy School should select a major (Kinesiology and Psychology are commonly selected) and complete the following prerequisite courses: one course in Human Anatomy and one course in Physiology (Kinesiology 12, 14), two courses in Biology (Biology 5 and 7), two courses in Chemistry (11A and 15, 15L), Physics 10 or 3A, 3B, Psychology 10, 115, 127, 130. Recommended, Public Health 44 or 100, and one course in statistics. The prerequisite course should be taken for a grade and not on a P/NP basis. GPA's for these courses should not be lower than 3.0, with no grade lower than a "C".

Certificate programs in Physical Therapy are available for the Baccalaureate degree at the following California schools: 1) University of California, the Medical Center, San Francisco, 2) University of Southern California, 3) Children's Hospital, Los Angeles. Students are urged to write each school early in the sophomore year to obtain details concerning specific admission requirements and application deadlines. Information concerning out-of-state programs can be obtained from the American Physical Therapy Association, 1156 N.W. 15th St., Washington, D.C. 20005.

Prepublic Health Curriculum: Two Years

See the Announcement of the UCLA School of Public Health, the section of this Catalog under Public Health, and request further information from the Office of Student Affairs, 21-236B Public Health, UCLA, Los Angeles, California 90024.

Prelaw Studies

Law schools have no preference in regard to specific majors or particular courses. Admission to law school is based on the quality of an applicant's academic work, LSAT scores, and other qualities as reflected in letters of recommendation, in the written application, and in interviews. The College of Letters and Science offers advising on preparing for and applying to law schools through weekly drop-in sessions. *Individual appointments cannot be made.* For the time and place of the drop-in sessions, see "Campus Events" section of the *Daily Bruin or call 825-1965.* The Learning Skills Center, 77 Dodd Hall, offers preparation seminars on the "Law School Admission Test" approximately one month prior to each administration of the LSAT. For additional information, see "Law School Admission Bulletin and LSAT Study Guide" (obtainable from Admissions Office, UCLA Law School) and *The Prelaw Handbook* (obtainable from local book stores).

Need to know more?

Take a look at the "academic resources to help you" section of this book. You will find some signposts to getting you the guidance you need.

There are also several publications to help you. These include: *"Finders Keepers"*—a general handbook to UCLA, with sections on academic planning. Reference copies are available through all department, college, school and ASK counselors at the College Library and University Research Library reference desks and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

Schedule of Classes is a quarterly publication by the Registrar which contains information on class meeting places, instructors and the number of units provided for each course. It also includes a calendar for add/drop dates, registration and final examination schedules. It is available for 50 cents at the Students' Store, the Cashier's Office, 1125 Murphy Hall, North Campus Center Store and Health Sciences Student Store. To obtain a copy by mail, send $1 to ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, CA 90024, ATTN: Mail Out.

Daily Bruin, UCLA's daily newspaper, advertises new classes and innovative programs being offered for the quarter. Issues are available in the *Daily Bruin* boxes located all over the campus. *Be sure to* look at the Official Notices section on Mondays and Thursdays for information and deadline dates on procedures, and announcements from the administration (i.e., financial aids, the colleges, etc.).

Lower Division Course Abstracts are offered each quarter. This is a collection of expanded course descriptions written by faculty members teaching introductory courses. It also contains prerequisites, expenses, testing and research requirements, and tentative reading lists. Your Orientation Counselor, Undergraduate Advisor/Counselor or ASK Counselor has a copy for your use. These abstracts may be helpful in choosing classes and alternates.

Update is a yearly publication that lists student evaluations of courses offered during the previous academic year and biographies of professors. By reviewing *Update* you can see what students thought about a particular course and professor. This may or may not influence your selection of classes. *Update* is available at the Students' Store, Ackerman Union.

If you need more information the College of Letters and Science provides informal counseling of students by students through an "ASK" program at sites across campus. Call 825-3470 for details.

Additionally, Psychological and Counseling Services in 4223 Mathematical Science Building and the Placement and Career Planning Center—located just south of Powell Library—can both provide face to face, informal advice.

Lastly, if you are planning to apply to a professional school, it is a good idea to get a copy of its Announcement; in most cases, these publications give a much more detailed picture of educational philosophy, admissions procedures and offer more information than is possible here.

The School of Engineering and Applied Science

The undergraduate curriculum at the UCLA School of Engineering and Applied Science leads to a single degree, the Bachelor of Science in Engineering. The program provides a deep and broad education in the various fundamental branches of science and engineering while offering specializations in one of the major fields of engineering. The Bachelor of Science is intended to be a terminal, professional degree and/or to provide a basis for entering into graduate studies, not only in engineering but also in other professional schools such as medicine, law, dentistry, and business management.

Fields of Instruction

Instruction is offered in: acoustical engineering, aerospace engineering, bioengineering, ceramic engineering, chemical engineering, civil engineering, computer engineering, control systems engineering, earthquake engineering, electrical and electronics engineering, general engineering, environmental engineering, fluid mechanics, geotechnical engineering, information and communications theory, materials science, mechanical engineering, metallurgy, nuclear engineering, plasma engineering, soil mechanics, solid mechanics, structural engineering, systems science, and water resources.

Admission

Applicants for admission to the School of Engineering and Applied Science must satisfy the general admission requirements of the University as outlined in the section entitled "Admission" later in this Catalog. In the future, entrance to the School may be based on the results of a further examination of student grades and test scores.

Applicants are encouraged to apply either at the freshman or junior level. Students who begin their college work at a California community college are expected to remain at the community college to complete the lower division requirements in chemistry, mathematics, physics, and the recommended engineering courses before transferring to the University. Experience indicates that transfer students who have completed the recommended lower division program in engineering at California community colleges are able to complete the remaining requirements for the B.S. degree in six quarters (two academic years) of normal full-time study.

Admission as a Freshman

While many students will take their first two years in engineering at a community college, an applicant may qualify for admission to the School of Engineering and Applied Science in freshman standing. It is anticipated that admission to the School will require that the following subjects be taken when satisfying the University admission requirements:

Algebra	2 years
Plane geometry	1 year
Trigonometry	½ year
Chemistry and Physics with laboratory	2 years

It is also highly recommended that the student take a course in technical drafting while in high school.

Admission as a Junior

Applicants for admission to the School in junior standing should have completed 21 to 23 courses (84 to 92 quarter units) in good standing, including the following minimum subject requirements:

1. Two and one-fourth courses in chemistry, equivalent to UCLA's Chemistry 11A-11B-11BL; 2. six courses in mathematics, equivalent to UCLA's Mathematics 31A-31B-32A-32B, and 33A-33B. 3. four courses in physics, equivalent to UCLA's Physics 8A-8B-8C-8D.

Students transferring to the School from institutions which offer instruction in engineering subjects in the first two years, in particular, California community colleges, will be given credit for certain of the degree requirements. (See the upper division segment.)

Students who have been admitted to senior standing in the School on the basis of credit from another institution, from University Extension or from another college or school of the University must complete, subsequent to such admission, eight upper division courses which shall be used to satisfy part of their approved Major Field elective sequence.

Requirements for the Degree Bachelor of Science

The School of Engineering and Applied Science at UCLA awards the Bachelor of Science degree to students who have satisfactorily completed a program of four years of engineering studies.

The curricular requirements for the Bachelor of Science degree consist of the lower division and upper division segments (46¼ courses, 185 units), and the University requirements in scholarship, Subject A (English composition), American History and Institutions, and senior residence. You can find these requirements discussed in detail in "degree requirements" earlier in this section. At least a 2.0 grade point average must be achieved in all University courses of upper division level offered in satisfaction of the subject requirements and required electives of the curriculum. The lower division and upper division requirements are described below:

Study lists require approval of the Dean of the School or a designated representative. It is the responsibility of the student to present study lists which reflect satisfactory progress towards the Bachelor of Science in Engineering degree according to standards set by the Faculty. Study lists or programs of study taken by students which do not comply with these standards render the student liable to enforced withdrawal from the University or other disciplinary action.

After 213 quarter units, enrollment may not normally be continued in the School. The Dean may be petitioned for special permission to continue work required to complete the degree. This regulation does not apply to Departmental Scholars.

Credit earned through the College Level Examination Program (CLEP) will not be counted toward the Bachelor's degree.

No credit will be allowed toward the Bachelor's degree for Chemistry 2 after one year of high school chemistry has been completed with grade of C or better.

No credit will be granted toward the Bachelor's degree for college foreign language courses equivalent to quarter level 1 and 2 if the equivalent of course level 2 of the same language was completed with satisfactory grades in high school.

The Curriculum

The Engineering Curriculum is accredited by the Engineers' Council for Professional Development, the nationally recognized accrediting body for engineering programs.

Lower Division

Freshman Year	Units First Quarter	Units Second Quarter	Units Third Quarter
Chemistry 11A- 11B-11BL	4	5	—
Mathematics 31A-31B-32A	4	4	4
Physics 8A-8B	—	4	4
English 3	4	—	—
Engineering 10*			4
Electives**	—	4	4
	12	17	16

*The Computer Science Department offers a placement examination each quarter during registration week to permit students to demonstrate proficiency in the subject area of Engineering 10 based on outside work experience and/or courses completed elsewhere. Satisfactory performance on the placement examination will exempt students from the Engineering 10 subject requirement and will allow them to select another technical or major field elective course of their choice to satisfy the unit requirement.
Normally, Engineering 10S will not satisfy the Engineering 10 requirement.
**The lower division electives shall include the following: one course in the life sciences, three courses in the humanities-social sciences-fine arts area, and one free elective.

Sophomore Year	Units First Quarter	Units Second Quarter	Units Third Quarter
Mathematics 32B-33A-33B†	4	4	4
Physics 8C-8D	4	4	—
SEAS Core*	4	4	8
Electives**	4	4	4
	16	16	16

*The SEAS core requirement consists of 8 courses (32 units) to be chosen from 5 subject areas. The core is described immediately following the Upper Division segment of the Curriculum. For courses to be taken in the sophomore year, students should consult their major field advisers.
**The lower division electives shall include the following: one course in the life sciences, three courses in the humanities-social sciences-fine arts area, all chosen from an approved list and one free elective.

Upper Division

Prerequisite for junior status: Satisfactory completion of the minimum subject requirements specified under admission to the School at the Junior level.

Junior Year	Units First Quarter	Units Second Quarter	Units Third Quarter
SEAS Core*	8	4	4
Mathematics Elective**	4	—	—
Electives†	—	12	12
	12	16	16
Senior Year			
Electives†	16	16	16

*The SEAS core requirement consists of 8 courses (32 units) selected from five subject areas subject to the unit restrictions indicated in the table below.
**Upper division course to be chosen from a School approved list
†The upper division elective courses shall include the following:
1. Four courses in the humanities-social sciences-fine arts area; 2. Two free electives; 3. Twelve major field electives. For specific requirements within the humanistic and major field areas please refer to the section entitled "Elective Courses."

SEAS Core

The student is to select 8 core courses (32 units) from the 5 subject areas listed below. The minimum and maximum number of units allowed in each of the 5 subject areas is also given.

Subject Areas (5)	Courses (12)	Unit Range Min.	Unit Range Max.
Electrical Sciences	Engineering 100 Electrical and Electronic Circuits (4)	4	8
	Engineering 100B Engineering Electromagnetics. (4)		
Thermal and Sciences	Engineering 14*. Science of Engineering Materials (4)	8	12
	Engineering 105A. Introduction to Engineering Thermodynamics. (4)		
	Engineering 105D. Transport Phenomena. (4)		
Mechanics	Engineering 102. Mechanics of Particles and Rigid Bodies. (4)	8	12
	Engineering 103A. Elementary Fluid Mechanics. (4)		
	Engineering 108. Introduction to Mechanics of Deformable Solids. (4)		
Systems	Engineering 106B. Introduction to Design and Systems Methodology. (4)	4	8
	Engineering 121C. Systems and Signals. (4)		
	Engineering 127B. Elements of Probability and Information. (4)		
Computer Processes	Engineering 124A. Applied Numerical Computing. (4)	0	4

*Not open for credit to students who have had Engineering 107B.

Credit for Transfer Students

A course in digital computer programming, using a higher-level language such as Fortran IV or PL/1, will satisfy the requirement, Engineering 10.

Certain lower division technical courses such as surveying, engineering drawing, engineering measurements, and descriptive geometry will be given credit as free electives. (A maximum of three courses may be free electives.)

See "Electives," below.

Many sophomore courses in circuit analysis, strength of materials, and properties of materials may satisfy Engineering 100, Engineering 108, and Engineering 14 respectively.

Check with the Undergraduate Office, 6426 Boelter Hall.

Electives

The Engineering and Applied Science Curriculum for the Bachelor's degree includes provision for 24 elective courses to be chosen within the following categories:

1. Free electives, 3 courses, 12 units.

Any course yielding credit acceptable to the University of California except CLEP, certain remedial courses, and special courses designated by the School and posted in the Undergraduate Office, Boelter Hall 6426, may be selec;void Hall 6426, may be selected. It is, however, strongly recommended that you select additional technical courses for some of these units.

2. Humanities, Social Sciences, and/or Fine Arts, 7 courses, 28 units. To be chosen from an approved list.

Of the seven courses, at least three (12 units) must be upper division courses. Students from California community colleges (only) may reduce this to two upper division courses (8 units) *provided* they are in the same field; however, *all* students, including California community college transfers must have a minimum total of 7 humanities courses.

To provide some depth, at least three courses (12 units) must be in the same academic department or must otherwise reflect coherence in respect to subject matter. This group must contain at least two upper division courses.

With few exceptions, courses intended primarily to develop specific skills should be avoided (e.g. dexterity in performance on a musical instrument, ability to manipulate people, grammatical and composition skills, etc.). An exception is effective when the particular "skill" course is prerequisite to another upper division course which is strictly in the humanities or social science (e.g. foreign language and literature courses taught in the language, etc.).

A list of courses which are normally acceptable individually as humanities-social sciences-fine arts electives is available in the Undergraduate Office, 6426 Boelter Hall.

3. Engineering and Science in Society, 1 course, 4 units.

One of the seven humanities-social sciences-and/or fine arts courses or one of the free electives shall be a course (4 units) dealing primarily with engineering and science in society in the 100, 200, or 596 series. To be chosen from an approved list.

4. Life Science, 1 course, 4 units. To be chosen from an approved list.

5. Mathematics, 1 course, 4 units (upper division). To be chosen from an approved list and appropriate for the student's major field of study.

6. Major Field, 48 units (upper division).

The major field elective program shall be chosen so as to reflect coherence with respect to subject matter and to prepare the student for an area of specialization (including unified engineering). The twelve courses shall include (a) at least 8 units of laboratory experience to be satisfied by designated laboratory courses or a 4-unit laboratory course and two courses each including 2 units of laboratory experience and (b) one upper division course (4 units) in economics chosen from an SEAS approved list.

7. The engineering design content of the student's program (major field electives, core courses, technical electives, free electives, etc.) must total at least 23 units.

Lists of courses approved to satisfy the elective categories specified above are posted on the bulletin board in the Undergraduate Office, 6426 Boelter Hall.

Advising and Program Planning

It is mandatory for all students entering the undergraduate program to have their courses of study approved by an Engineering adviser. After the first quarter, curricular and career advising will be accomplished on a formal basis.

Students will be assigned to faculty advisers matching their major fields of interest whenever possible. A specific adviser or an adviser in a particular Engineering Department may be requested by submission of a Request for Change of Undergraduate Adviser form available in the Undergraduate Office. A list of faculty members and their specialties is posted on the Undergraduate Office bulletin board located in 6426 Boelter Hall. Your regular faculty adviser is available to assist you in planning your electives and for discussions regarding your objectives.

Choose the curriculum under which you wish to graduate. You will use the curriculum in effect when you begin full-time continuous study in Engineering at UCLA. However, any student has the option of selecting the curriculum in the General Catalog in effect at graduation. Community college transfers have the additional option of choosing the curriculum in the General Catalog in effect at the time they began their community college work in an *engineering* program providing attendance has been continuous since that time.

Attend the Junior Conference conducted by the School of Engineering and Applied Science for the purpose of helping you to plan your curriculum. The Conference usually is held during the fourth week of each quarter. For time and place consult the Undergraduate Office, 6426 Boelter Hall.

Plan your electives. The Elective Selection form approved by the major field adviser must be submitted for approval by the Assistant Dean, Undergraduate Studies, Undergraduate Office, 6426 Boelter Hall, during the first quarter of the junior year. The deadline for juniors to submit their elective selections is announced each term in the Undergraduate Enrollment Instructions brochure, School of Engineering and Applied Science.

Members of the Undergraduate Office Staff are available to assist you with University procedures and to answer any questions which you may have in regard to general requirements. Pay them a visit.

"Passed-Not Passed"

Engineering undergraduate students may take one course per quarter on a Passed/Not Passed basis if the following conditions are met:

1. You are in good academic standing, i.e., not on academic probation or subject to academic dismissal.

2. You are enrolled in at least 3 1/2 courses (14 units) for the quarter including the course taken on a passed/not passed basis.

3. Only humanities-social sciences-and/or fine arts and free electives may be taken on a passed/not passed basis.

4. If you have not elected the passed/not passed option in the preceding quarter you may take two courses passed/not passed. You must submit a petition to the Dean for approval to take two courses on a passed/not passed basis in one term.

5. If you have not received two not passed grades. A student who has received two "not passed" grades shall be excluded from electing passed/not passed for the next term in residence.

A grade of "passed" shall be awarded only for work which would otherwise receive a grade of "C" or better.

Honors

Departmental Scholars

If you are an exceptionally promising junior or senior, you may be nominated as a Departmental Scholar to pursue bachelor's and master's degree programs simultaneously.

Minimum qualifications include the completion of 24 courses (96 quarter units) at UCLA, or the equivalent at a similar institution, a 3.40 grade point average and the requirements in preparation for the major. To obtain both the bachelor's and master's degrees the Departmental Scholar will fulfill the requirements for each program and maintain a minimum average of 3.40. The student may not use any course to fulfill requirements for both degrees.

Interested students should consult the Assistant Dean, Undergraduate Studies, 6426 Boelter Hall, well in advance of application dates for admission to graduate standing.

Dean's Honor List

Students following the Engineering curriculum are eligible to be named to the Dean's Honor list each term. They must have carried a minimum load of 16 units, 12 units minimum of letter grade, with a grade point average better than 3.70.

Honors with the Degree

Students who have achieved scholastic distinction in upper division studies may be awarded the Bachelor's degree with the appropriate honors designation: *Cum Laude, Magna Cum Laude, or Summa Cum Laude.* Based on grades achieved in upper division courses, a student should have a 3.4 upper division grade point average to qualify for *Cum Laude,* a 3.6 for *Magna Cum Laude,* and a 3.8 for *Summa Cum Laude.* For all designations of honors, students must have a minimum 3.25 grade point average in their major field elective courses to qualify. To be eligible for an award a student should have completed at least 80 units of upper division studies at the University of California.

Tau Beta Pi

The UCLA chapter of *Tau Beta Pi,* the national engineering honor society, encourages high scholarship, provides volunteer tutors, and offers many services and programs "to foster a spirit of liberal culture in engineering colleges."

Student Activities

You will find an abundance and variety of extracurricular activities at UCLA, which provide many opportunities for valuable experiences in leadership, service, recreation, and personal satisfaction. The Faculty of the

School strongly encourages students to participate in such activities, especially those of most relevance to engineering. Among the latter are the student engineering societies such as the Engineering Society, University of California and the Engineering Graduate Student Association; the student publications, and the student-oriented programs of the many technical and professional engineering societies in the Los Angeles area.

The student body takes an active part in shaping policies of the School through elected student representatives, two for each of the faculty's three major policy committees.

Women in Engineering

Women make up 15.7 percent of the undergraduate and 10.2 percent of the graduate enrollment in the School of Engineering and Applied Science. Today's opportunities for women in engineering are excellent, as both employers and educators try to change the image of engineering as a "males only" field. Women engineers are in great demand in all fields of engineering.

The Society of Women Engineers (SWE), recognizing that women in engineering are still a minority, has established a UCLA student chapter to provide for their interests. This student section of SWE sponsors field trips and engineering-related speakers (often professional women) to provide an introduction to the various options available to engineers. The UCLA chapter of SWE, in conjunction with other Los Angeles schools, also publishes an annual resume book to aid women students in finding jobs.

Continuing Education

The Department of Continuing Education in Engineering and Mathematics, UCLA Extension, maintains an Evening Information Center in 6266 Boelter Hall which is open from 5 to 7 p.m. Monday through Thursday throughout the year except for the month of August and during Christmas and New Year's weeks.

Need to know more?

The Announcement of the School of Engineering and Applied Science, available by writing to the Undergraduate Office, School of Engineering and Applied Science, University of California, Los Angeles, California, 90024 gives an expanded version of the program described in this section.

The College of Fine Arts

The UCLA College of Fine Arts is a young, dynamic center for higher education in the arts. Founded only 20 years ago and located in Los Angeles—a focal point for the Arts—the College of Fine Arts is a recognized leader in teaching not only the history, but also the practice of the visual and performing arts.

The College of Fine Arts consists of four departments: Art, Dance, Music and Theater Arts. Together with the College of Letters and Science, the College of Fine Arts is the foundation in the liberal arts upon which the balance of the University's academic and professional structure rests

The College has the following major responsibilities:

1. To provide the University community with an educational program designed to communicate an understanding of the genius of man's artistic creativity to fine arts majors and non-majors alike.

2. To provide the fine arts major with a liberal education as well as a serious, disciplined, professional training.

3. To provide both the creative and performing artist on the one hand, and the historian and critic on the other, with programs of the highest quality.

4. To develop programs of research, study and performance which recognize the unique role that the arts play in exploring and comprehending alien cultures.

5. To support, as appropriate, the important and growing extracurricular programs in the full range of the Fine Arts for the benefit not only of the University community, but for the public as well. Examples of efforts to meet this responsibility are to be found in the program of art gallery and museum exhibits, plays, concerts, dance recitals, and the like, all of which are increasingly enriching the campus cultural program. In this connection, it should be added, the College has close ties with the Committee on Fine Arts Productions, with the Student's Committee of the Arts—whose main interest lies in organizing programs for campus students and in involving more and more students in Fine Arts events—and such support groups as the UCLA Art Council, the Friends of the Graphic Arts, and the Council for the Performing Arts.

Majors Offered

Majors leading to the degree of Bachelor of Arts are offered in the following areas:

History of Art, Design, Painting/Sculpture/Graphic Arts.

Dance.

Music, with specialization in Composition and Theory, Ethnomusicology, History and Literature, Music Education, Applied Music, Systematic Musicology.

Theater, Motion Pictures/Television.

Ethnic Arts: Interdisciplinary studies.

Students interested in obtaining teaching credentials for California elementary and secondary schools should consult the Graduate School of Education.

Students in the College of Fine Arts also have the opportunity to plan an individual major as described in the "Requirements for the Major" section of this description of the college.

Admission

Some departments require auditions, portfolios, or evidence of creativity, but these should not be sent with the application, since detailed information regarding this requirement will be mailed to the student upon receipt of his application. Deadline date for applications is November 30, 1980 for admission in the Fall Quarter of 1981.

Requirements for the Bachelor's Degree

Each student must meet the University, College and Major requirements, and the unit, scholarship, and residence requirements, as follows:

University Requirements

For subject A and American History and Institutions, please consult the index.

College Requirements

All students must complete the specific subject requirements established by the University, the College of Fine Arts, and the student's major department.

The general requirements of the College of Fine Arts, which must be completed with a grade point average of 2.0 or better, provide for breadth in your education, and are planned to insure a degree of basic skill in communication—both in English and in one foreign language—to offer you an introduction to each of the broad fields of human learning: science/mathematics, social science, and the humanities.

Students attending a California community college should consult their counselors to determine which community college courses are appropriate and are accepted in satisfaction of the general college requirements by the College of Fine Arts.

No "198", "199", "special topics" or "selected topics", or CED courses and no seminars, pro-seminars or freshman seminars may be applied on the general requirements of the College. Courses which are multiple-listed (numbers preceded by "M") may not be applied on these requirements.

English (Grammar and Rhetoric). [4 units] English 3 with a grade of "C" (2.0) or better.

Must be completed by the end of the freshman year. This course may *not* be taken on a "pass/not pass" basis.

English (Composition and Literature). [4 units] English 4, with a grade of "C" (2.0) or better; must be completed by the end of the sophomore year. This course may *not* be taken on a "pass/not pass" basis.

Foreign Language. [12 units] Three college courses in one foreign language, through the third level, other than the foreign language taken in high school or the native tongue of foreign students. A student whose entire secondary education has been taken in a language other than English, may upon petition be exempt from the foreign language requirement.

This requirement must be completed by the end of the sophomore year. If level 3 is completed with at least 4 quarter units of work, without taking levels 1 and 2, an additional 2 courses (8 units) must be completed from the approved lists of courses that comprise the general requirements. Some majors may require the completion of the language prior to entry into the major. Proficiency examinations may *not* be used to complete this requirement.

Science/Mathematics. [8 units] One course in physical or biological science and one course in another natural science or in mathematics.

Physical and Biological Science Courses
Selected courses from:

Anatomy

Astronomy

Atmospheric Sciences

Bacteriology

Biology

Botany

Chemistry

Entomology

Geology

Meteorology

Microbiology

Mineralogy

Oceanography

Paleontology

Physics

Physiology

Zoology

Other Natural Science and Mathematics Courses

Anthropology (physical or biological only)

Ecology (physical or biological, not crossed with social science or humanities)

Environmental Science (physical or biological, not crossed with social science or humanities)

Geography (physical only)

Mathematics (no remedial or history)

Psychology (physical or biological only)

Social Science. (12 units) One course in the history of any period prior to 1600, one course in the history of any period after 1600, and one other social science course.

Other Social Science Courses

Anthropology (except physical or biological or courses dealing with language study)

Economics (principles, history and theory only)

Geography (except physical)

History (except medical or geology)

Political Science

Psychology (except physical)

Sociology and Social Science

Note: Survey courses in history which cover "antiquity to present" will be applied only on History after 1600 or "other social science."

Humanities. [12 units] One course in The Arts, one course in Literature, one course in Philosophy and/or Religion. Performance, studio or movie/film courses do not meet this requirement. Courses in your major department may *not* apply on this requirement.

The Arts Courses

Art, Dance, Music and Theater Arts (history, appreciation and criticism only)

Classics 151ABC

Architecture (history or survey only)

Literature Courses

English, ethnic, American or foreign literature, including work in translation

Humanities (not crossed with social science or science)

Classics (except 151ABC)

Folklore/Mythology

Philosophy/Religion Courses

Philosophy

Religion

Any course applied on one of the specific subject areas may not also be applied on another requirement. No course used to satisfy any general University requirement may also be applied to the general College requirements.

A few course areas that DO NOT APPLY on the general college requirements are: Business, Communications, Criminology, Education, Engineering, Family Life, Marriage and Child Care, Field Studies, Home Economics, Independent Studies, Interdisciplinary Studies, Journalism, Law, Mass Media, Public Health, Speech, and Writing.

Additional Non-Major Department Requirements For The Degree: 3 Upper Division courses (12 units) completed outside your major department. These courses may not apply on the General College requirements. Studio, performance, activity, and 199 (Independent Studies) courses *may not apply on this requirement.*

Credit earned through the CEEB Advanced Placement Examinations may be applied on the General College requirements as follows: credit for English 1 and 2 (with scores of 4 or 5 only) will apply on the English Composition requirement; all foreign language credit will apply on the foreign language requirement; all credit in science and mathematics will apply on the science/mathematics requirement; and all credit in history will apply on the social sciences requirement.

It is important to note that portions of Advanced Placement Test credit may be evaluated by corresponding UCLA course numbers, e.g., History 1C. If you take the equivalent UCLA course, *deduction of unit credit for such duplication will be made prior to graduation.*

Major Requirements

A *major* is composed of not less than 14 courses (56 units), including at least nine upper division courses (36 units). The major includes both lower and upper division courses, arranged and supervised by the department and approved by the Executive Committee of the College.

Each candidate for the bachelor's degree is required to complete a major in the College of Fine Arts with a scholarship average of at least two grade points per unit (C average) in all courses, and must be recommended by the chairman of his major department.

Your attention is directed to the courses listed as *preparation for the major* in the "courses" section of this Catalog. In general, it is essential that these courses be completed before upper division major work is undertaken. In any event, they are essential requirements for the completion of the major.

Any student failing to attain a scholarship average of at least two grade points per unit in a major department may, at the option of the department, be denied the privilege of a major in that department.

A department may submit to the Dean of the College the name of any student who, in the opinion of the department, cannot profitably continue in the major, together with a statement of the basis for this opinion and the probable cause of the lack of success. The Dean may permit a change of major, or may, with the approval of the President, require the student to withdraw from the College.

Any department offering a major in the College of Fine Arts may require from candidates for the degree a general final examination in the department.

As changes in major requirements occur, students are expected to satisfy the new requirements insofar as possible. Hardship cases should be discussed with the departmental adviser, and petitions for adjustment submitted to the Dean of the College when necessary.

Ethnic Arts: Interdisciplinary Studies

An intercollege, interdepartmental major is offered in Ethnic Arts. It is open to students in both the College of Fine Arts and the College of Letters and Science. You remain in the college of your choice and fulfill the breadth requirements of that college. Counseling is available in the department of your concentration.

The degree is not viewed necessarily as a foundation for graduate study, but may become so with proper course selection if that is your aim.

The major includes a core of seven courses from the departments of Anthropology, Art, Dance, Folklore and Mythology, Music, and Theater Arts; a concentration in one of the six disciplines; at least three courses in one foreign language; a senior colloquium; and electives selected by the student.

Admission to the major will be by special application to the Committee in Charge.

For further details, see "Ethnic Arts" in the "Courses of Instruction" section of this catalog.

Individual Majors

A student who is already regularly enrolled and attending classes at UCLA, who has some unusual but definite academic interest for which no suitable major is offered, and has completed at least three quarters of work (a minimum of 9 courses) at the college level with a grade-point average of 3.0 or higher, or the equivalent in creative work and performance, may, with the assistance of a faculty advisor in consultation with the chairman of the faculty advisor's department, and with the consent of the Dean, plan his own major. A majority of the courses in the major must be in departments in the College of Fine Arts with no more than three performance or studio courses.

If you are interested in an individual major, consult the Student Information section of the Dean's Office located in A333 Murphy Hall, for information and forms necessary to implement such a major.

Unit Requirements

The candidate for the Bachelor of Arts degree shall have completed for credit no less than 45 courses (180 units) or no more than 52 courses (208 units) of which at least sixteen courses (64 units) shall be upper division courses (numbered 100-199).

No more than one course (4 units) of Physical Education 1 and 2 and/or Kinesiology 1 and 2A-2Z may be counted toward the degree. No more than four CED courses (16 units) and no more than two courses (8 units) of Freshman Seminars will be counted toward the degree.

Credit for 199 courses is limited to four courses (16 units), two courses (8 units) of which may be applied to the major. All 199 courses must be taken for a letter grade.

Only work of passing quality will apply toward degree requirements.

University Extension courses with the prefix "X" on those numbered in the 200, 300, 400 or 800 series do not apply toward the degree.

Credit earned through the College Level Examination Program (CLEP) will not be counted toward the bachelor's degree in the College.

The Study List

Each quarter the student study list must include from twelve to seventeen units. Petitions for more than seventeen units must be filed and approved by the Dean of the College prior to the deadline dates listed in the annual *Announcement of the College of Fine Arts.*

If you have not filed your study list by the end of the second week of classes, you must secure the permission of the Dean of the College to continue for that quarter.

Graduate Courses

Undergraduate students who wish to take courses numbered in the 200 series must petition for advance approval of the department chairman and the Dean of the College, prior to enrollment and must meet the specific qualifications for such courses. Courses numbered in the 400 and 500 series are not available to undergraduate students in the College of Fine Arts.

Scholarship Requirements

A "C" average (2.0) is required in all work attempted in the University of California, exclusive of courses in University Extension and courses attempted on a pass/not pass basis. A "C" average (2.0) is also required in all upper division courses in the major attempted in the University as well as in all courses applying to the General College requirements and the General University requirements.

The Minimum Progress requirements discussed under "Grades and Scholarship Requirements" in the introductory section of "undergraduate Education at UCLA" also apply to all students enrolled in the College of Fine Arts.

Residence Requirements

Of the last 45 units completed for the bachelor's degree, 35 must be earned in residence in the College of Fine Arts. (A student is "in residence" only while enrolled and attending classes at UCLA as a *major* in one of the departments of the College of Fine Arts.) Not more than 18 of these 35 units may be completed in summer sessions at UCLA.

University Extension. Courses in University of California Extension (either class or correspondence) may not be offered as part of the residence requirement.

Concurrent Enrollment. Concurrent enrollment in courses at another institution or in University Extension (including correspondence courses) is permitted only in extraordinary circumstances, and no credit is given for such courses unless the approval of the Dean has been obtained by petition *prior to enrollment.*

Counseling

The College of Fine Arts has established an academic counseling program designed to orient you to the University's offerings and facilities, and to assist you in crystalizing your educational objectives and in planning your course of studies. The program includes meetings at the departmental level, and individual interviews with departmental counselors and faculty advisers.

Prior to registration and enrollment in classes, each new student is assigned to a departmental advisor in a major department, and it is expected that the student will return to the advisor for program planning each quarter. It is the advisor's function to help you make wise decisions concerning educational goals, but not to dictate what you should do. It is *your* responsibility to become familiar with University and College requirements and to make your own decisions.

The College of Fine Arts publishes an announcement which provides additional information you may find helpful. To obtain a free copy, stop by the Dean's Office, A333 Murphy Hall, or request one by mail from The College of Fine Arts, UCLA, 405 Hilgard Avenue, Los Angeles, California, 90024.

In addition, the College offers counseling and information on academic difficulties and related matters at the Student Services window of the Dean's Office, located in A333 Murphy Hall; telephone 825-1554.

Program planning questions, or inquiries about degree requirements should be directed to the departmental counselor.

In addition to the counseling available in the College, the Psychological and Counseling Services in 4223 Math Sciences and the Placement and Career Planning Center located just south of Powell Library can provide informed guidance.

Honors

Dean's Honors will be awarded at the end of the Spring Quarter to students completing the previous year's program with distinction according to criteria established by the Dean of the College.

Honors with the Bachelor's Degree

College Honors are awarded at graduation to students with a superior overall grade-point average. The honor designations and the requirements for each are *Cum laude,* an over-

all average of 3.4; *Magna cum laude,* 3.6; *Summa cum laude,* 3.8. To be eligible for College Honors, you must have completed at least 20 *graded* courses (80 units) in the University of California.

In addition, the following publication offers you added information about UCLA in general:

"Finders Keepers"—a handbook to UCLA, with sections on general academic planning. Reference copies are available through all department, college, school and ASK counselors, at the College Library and University Research Library reference desks, and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

The School of Nursing

If you are interested in the academic program offered by the UCLA School of Nursing—on the graduate or baccalaureate level—you are urged to request a copy of the Announcement of the School by writing to the School of Nursing, Student Affairs Office, University of California, Los Angeles, California 90024.

Description and Philosophy

Schools of nursing differ in their professional focus on education and research. It is therefore pertinent to state this School's view of the profession which serves as a basis for its undergraduate and graduate programs. Basic to the philosophy of the School is the belief that it is the right of all individuals to receive optimal health care. Fundamental to this belief is the fact that all individuals possess a unique culture that influences their response to illness and their contribution and involvement in the delivery of health care. Nursing shares with other health sciences the goal of promoting health for individuals and communities as well as the responsibility for the care, comfort, and dignity of patients in acute, chronic, and terminal illness.

To accomplish this goal, nurses function as independent practitioners, in collaboration with other members of the health team and in a medical supportive role. Based on scientific knowledge and technical skill, the practice of nursing focuses on promotion of health, prevention of illness, and support of the resources of the person who is ill.

Nursing concerns include expansion of knowledge essential to the nursing process, new methods of care, and improvement of health care delivery systems. In implementing the philosophy of nursing, the curriculum concentrates on the behavior of man as he moves through the health-illness continuum.

The programs provide for an understanding of the social and cultural systems in which living and care-giving take place and an understanding of man's psychology and physiology under normal and pathological conditions. Nursing research is stressed throughout the programs as the means for the development of new knowledge.

You can find a detailed description of the School of Nursing studies in the "courses" section of this Catalog. For information on graduate studies in the School of Nursing please consult the Graduate Catalog.

History and Accreditation

The School of Nursing was authorized by the Regents of the University in 1949 as one of the Professional Schools of the Center for Health Sciences at UCLA. This action paved the way for the development of an undergraduate basic program in nursing and made possible the establishment of a graduate program leading to the Master of Nursing degree. The baccalaureate program has been continuously approved by the California Board of Registered Nursing since 1949. The School of Nursing became an agency member of the Department of Baccalaureate and Higher Degree Programs of the National League for Nursing in 1952. The Accrediting Service of the National League for Nursing has granted full accreditation to both programs since 1954.

The Baccalaureate Program

The baccalaureate program leading to the Bachelor of Science degree provides for a close interweaving of general and professional education. The physical, social, and emotional health aspects of nursing are emphasized throughout the curriculum. Clinical nursing experience under the guidance of faculty members is provided in hospitals, outpatient clinics, homes, and community health centers. Credit by examination is available to qualified students upon review of previous education. The Assistant Dean of Student Affairs will review a student's case upon request to determine the student's eligibility for this procedure.

The School of Nursing offers a curriculum sequence which affords students the opportunity to sit for the California Registered Nurse licensing examination at the conclusion of the junior year. Interested students must maintain each quarter a minimum GPA of 3.0 and petition the Dean to enroll beyond the four quarter courses usually permitted. Students are reminded that many states do not reciprocally honor California nursing licenses obtained prior to completion of a baccalaureate degree. Students who plan to follow this sequence should contact the Assistant Dean for Student Affairs before the beginning of the freshman year to receive more complete details.

Requirements for the Degree of Bachelor of Science

The degree of Bachelor of Science will be granted upon fulfillment of the following requirements:

1. The candidate shall have completed the required 45 courses (180 quarter units) of college work and shall have satisfied the general University requirements.

2. The candidate shall have included in the required 45 courses, at least 21 courses in general education.

3. The candidate shall have completed at least 25 quarter courses (100 quarter units) of upper division course work toward the degree.

4. The candidate shall have maintained at least an overall grade point average of C (2.00) in all courses taken while a student in the School of Nursing.

5. The candidate shall have completed all required nursing courses in the School of Nursing and shall have received a grade of C or better in the following clinical nursing courses: 101, 109, 120A,B,C,D,E,F, 190A,B, Physiology 105N.

6. The candidate is required to have been enrolled in the School of Nursing during the final three quarters of residence; the last nine courses must be completed while so enrolled.

Honors

The faculty of the School of Nursing, or a duly authorized committee thereof, shall recommend for honors and awards bachelor's degree condidates who meet the criteria determined by the faculty of the School of Nursing and the University.

Admission Criteria

The School of Nursing strives to attain a culturally and ethnically diverse student population. Admission is based on scholarship, diverse life experiences, ethnicity, and disadvantagement. Completion of a minimum of 84 quarter units with an overall grade point average of 2.8 or above and three letters of recommendation are required. Diverse life experiences, including previous employment, volunteer work, and community service, which reflect leadership, responsibility, multicultural involvement, multilingual abilities, and other unusual skills and knowledge are evaluated. Consideration is also given to social and economic disadvantagement such as educational background, heavy work schedule during school, housing conditions, family responsibilities, and mastery of physical handicaps.

Completed applications should reflect clearly identified career goals and documentation of the applicant's potential in nursing.

Application Process

Applications for acceptance to the baculaureate program in the School of Nursing must be filed no later than November 30 for the next Fall Quarter. The School of Nursing admits 50 students each Fall Quarter. The School of Nursing does not admit in Winter or Spring Quarter. Two separate applications are required:

1. Application for admission to the University in undergraduate status (accompanied by a $20 application fee) must be filed with the Office of Undergraduate Admissions, University of California, Los Angeles, California 90024.

2. Application for acceptance to the School of Nursing must be filed with the School of Nursing by November 30. This application is available directly from the School of Nursing, Student Affairs, Louis Factor Building, University of California, Los Angeles, California 90024.

You can find a discussion of a pre-nursing curriculum and "pre-health" advising in the "preparing for a professional school" portion of this section of the catalog.

The School of Public Health

If you are interested in the programs offered in the School of Public Health at UCLA you are urged to get a copy of the Announcement of the School by writing to the Office of Student Affairs, School of Public Health, University of California, Los Angeles, California 90024.

Detailed descriptions of undergraduate course offerings are listed in the "courses" section later in this catalog. Graduate courses are described in the UCLA Graduate Catalog.

Description and Purpose

Public Health is a broad, multidisciplinary field of study directed toward the understanding and control of factors affecting the health of populations. The mission of the School of Public Health is to develop and teach the application of the sciences to the solution of community health problems. One feature of the field of public health is a reliance on research methods to identify important health relationships. Another feature is a community or social approach to the problems of health and disease in their preventive or therapeutic aspects. The concerns of public health cut across national boundaries and include the functions of both voluntary and governmental agencies, of research and teaching institutions, and of health care facilities.

There are many areas of emphasis in the field, and five may be singled out as follows: (1) nature, extent and distribution of disease; (2) quantitative methods of description and analysis; (3) environmental hazards, their identification and control—emphasis is on hazards found in technologically advanced regions of the world as well as less advanced regions; (4) the organization and delivery of community health services—emphasis is on the development of strategies for optimal provision of health care of high quality for all members of society; (5) basic biological and psychosocial processes that affect the health and well-being of populations.

The purpose of programs of instruction in the field of public health is to provide opportunity to develop understanding of the theoretical foundations and philosophy of the field, and to permit specialization in fields of professional service or research. This is achieved through required and elective courses that stress broad exposure to basic issues as well as intensive study in selected specialties.

Through organized programs in the School of Public Health, students entering the field may thus prepare themselves for careers in such basic specialties as epidemiology, biostatistics, nutritional science, and environmental health sciences. They may also prepare themselves for the challenges of community well-being such as the operation of hospitals, health maintenance in industry, the health education of the public, organization of medical care, behavioral sciences in public health, and community health administration.

Degrees Offered

The School of Public Health offers the following degrees: Bachelor of Science in Public Health, Master of Public Health, Doctor of Public Health, Master of Science in Public Health, Doctor of Philosophy in Public Health, Master of Science in Biostatistics, and Doctor of Philosophy in Biostatistics. In addition, combined MPH degrees are available with Latin American Articulated Degree Programs, Graduate School of Management, School of Law, School of Medicine, and School of Dentistry. For information on graduate programs, please consult the UCLA Graduate Catalog.

Undergraduate Program: Bachelor of Science Degree

Admission to the Bachelor of Science Program is limited to undergraduate students in good standing within the University of California who have satisfactorily completed at least 84 quarter units of work in one of the colleges of the University, or who have transfer credits evaluated as equivalent. A student wishing to major in Public Health selects an area of concentration from one of the following: biostatistics, comsumer health information and education, or nutritional science.

Preparation for the Major

Preparation for the major consists of the following:

1. Subject A.

2. American History and Institutions.

3. Foreign Language: two years of one language in high school, or through Course 3 at college level.

4. Two years of high school mathematics.

5. One course from English 3 or 4, Humanities 2A or 2B.

6. Physical Science: Chemistry 11A, 11B, 11BL, 11C, 11CL (or Chemistry 11A, 15, and an elective course in a physical science for students who plan to specialize in Consumer Health Information and Education); Mathematics 1B or 3A.

7. Life Sciences: Biology 5 and 7 and Microbiology 10 for Consumer Health Information and Education students.

8. Social Sciences: three courses.

9. Humanities: three courses.

10. Additional courses in chemistry, mathematics, natural sciences, or physics as recommended by the student's advisor.

Requirements for the Bachelor's Degree

1. The candidate shall have completed at least 45 courses (180 quarter units) of college work, of which at least the last 9 courses (36

quarter units) must have been completed while enrolled in the School of Public Health. Not more than 18 of the above 36 quarter units may be completed in summer session on the campus of residence.

2. The candidate shall have completed at least 16 courses (64 quarter units) in upper division (numbers 100 through 199). At least 6 courses must have been completed while enrolled in the School of Public Health, 4 of which must have been in the major.

3. The candidate shall have maintained a "C" (2.0) average in all courses taken, shall have satisfied all of the course requirements in preparation for the major, as well as those required in the major.

4. The candidate is not normally expected to take more than 180 quarter units to obtain the bachelor's degree. Except in rare cases, approved by the Dean, the candidate will not be permitted to continue after completing 208 quarter units.

5. Credit limitations

a) Prior approval by the advisor and the Dean is required before a student may enroll in a course for "passed/not passed" credit; however, courses in the major may not be taken on a Passed/Not Passed basis.

b) Only 4 quarter units of physical education courses may be counted toward degree credit.

c) Public Health 199: Open to seniors who must petition before enrolling; limited to 4 units each quarter; no more than 16 units may be counted toward degree credit.

d) Courses in the 200 or 400 series: Candidate must secure approval from the faculty advisor and the Dean before enrolling in these courses, unless the course is a requirement of the major.

e) Concurrent enrollment: Concurrent enrollment in University Extension or at another institution is permitted only under extraordinary circumstances and with prior approval from the faculty advisor and the Dean.

f) After completing 105 quarter units toward the degree (in all institutions attended), the student will be allowed no further unit credit for courses completed at a community college.

g) Enrollment limitations: The candidate must enroll in no less than 12 or more than 16½ quarter units each quarter. Exception requires approval of the faculty advisor and Dean. A student on probation may be given other limitations.

h) A single course can not be used to satisfy two distinct course requirements.

Major in Public Health

A student majoring in Public Health selects an area of concentration for a major from one of the following: Biostatistics, Consumer Health Information and Education, and Nutritional Science.

General Requirements for the Major

Required are:

1. Public Health 100A. Introduction to Biostatistics.

2. Public Health 110, Introduction to Medical Science or Public Health 111, Human Disease and Public Health.

3. Public Health 112, Principles of Epidemiology.

4. Public Health 150, Environmental Health, or Public Health 155, Introduction to Environmental Health not required for Nutritional Science students.

5. Public Health 180, Introduction to Public Health, (Nutritional Science students may substitute Public Health 130).

6. Public Health 153, Public Health Microbiology, Microbiology 101 may be substituted with consent of the instructor. However, for Nutritional Science students, Microbiology 101 is required.

Requirements for Field of Concentration

Biostatistics

The biostatistics program prepares students in the application of biostatistics to the broad field of Public Health and the evaluation of health programs.

Mathematics 31A-B, 32A-B, 152A-B or (150C); Public Health 101A, 101B, 100C, (or 100A-100D), 102. Every student will be required to study an additional subject area at the upper division level as a basis for application of statistical methods and theories.

Consumer Health Information and Education

This program prepares a student to work as a consumer health advocate and health information and promotion specialist.

A minimum of four courses are to be selected from among: Public Health 130, 160, 170, 182, 183, 184. Another minimum of four are to be selected as a minor from one of the following fields of concentration: Communications, Organizations, or Behavior, in consultation with the faculty advisor.

Nutritional Science

In this program students become acquainted with the basic nutritional factors and components of health.

Mathematics 3B, 3C, Chemistry 21, 23, 25; Physics 3A, 3B, 3C (or 6A, 6B, 6C); Public Health 162, 163, 164, 165, 167. Electives will be chosen in consultation with the faculty advisor.

Counseling

Open counseling is offered at Orientation to Public Health Meetings each quarter. Further assistance is given by appointment with the Student Counseling Office, (213) 825-7449, in the School of Public Health.

About Graduate Education at UCLA

If you're interested in finding out about the various degree programs in the Graduate Division at UCLA—including the professional schools like law, medicine, architecture and urban planning and others—you'll need to get a copy of the UCLA Graduate Catalog, for sale in the ASUCLA Students' Store in Ackerman Union. Copies may also be ordered by mail from the "Book Mail Out" department at the Students' Store, 308 Westwood Plaza, Los Angeles, California 90024.

resources to help you

In this section of the Undergraduate Catalog, you will find a listing and description of the many resources—people as well as publications—available to help you get the most out of your undergraduate education at UCLA.

It is important that you recognize that the services discussed below are offered in addition to departmental, division or school/college programs of advice and counsel which are outlined in other sections of this book.

Advisors

Different types of advisors have different functions; it's useful to keep those more or less distinct roles in mind.

College or School Advisors answer general questions about the college or school as well as give out information about various petitions, filing procedures and deadlines.

College or School Counselors, on the other hand, can show you how college/school or university academic regulations apply to your individual situation.

Departmental Counselors provide you with information about the courses within their department; information on departmental and major requirements (and advice on meeting them) are also available.

Additionally, departmental counselors may be aware of study, research and employment opportunities in your area of academic interest.

Faculty Advisors can advise you on questions pertaining to course work and offer guidance on research projects or independent study to supplement your courses.

Remember, too, that *every* UCLA faculty member is an advisor if you are having trouble in a course they are teaching. Professors keep office hours for students to ask questions and try out ideas.

Those hours are one of the most valuable parts of your academic experience. Use them.

Peer Counselors are trained students who can give you an informed "students-eye" view on program planning.

Before You Need Them

Here's some advice about advisors: Don't wait until you are in academic difficulty to seek them out—it may be too late. Advisors work with you to *avoid* problems, so see them "before" you need them.

Seeing Your Advisor

Here are some things to keep in mind when you see your advisor. Write down your questions as completely as possible.

Make sure you understand the questions you're asking—and the answers you get. Then, write down the answer. With both your question and the answer to it, ask for clarification until you are sure you fully understand.

Keep a record of your visits, including any printed materials the advisor gives you. In the same way, you are urged to keep a record of your UCLA transactions in general. Save, and carefully store, copies of petitions, gradecards and so forth.

You have the option to try various counselors, to find the one you can relate to most easily.

Currently, UCLA offers the following opportunities for advice on academic questions.

College Counselors

College of Fine Arts A333 Murphy Hall, 825-1397, 825-1554

College of Letters and Science 1312 Murphy Hall, 825-3382

Division of Honors 1331 Murphy Hall, 825-1553, 825-3786

Pre-Health Care 1332 Murphy Hall, Window 9, 825-1817

Pre-Law 1312 Murphy Hall, 825-3160

Departmental Advisors/ Counselors

Aerospace Studies 251 Dodd Hall, 825-1742; *Sally Ann Cohen, 251 Dodd Hall, 825-1742*

African Languages Linguistics, 2113 Campbell Hall, 825-5069, 825-0634; *William Welmers, 2113 Campbell Hall, 825-1574*

African Studies Special Program, Interdepartmental; African Studies Center, 10244 Bunche Hall, 825-3686; *Patricia Eaton, 10250 Bunche Hall, 825-2944*

Afro-American Studies Interdepartmental; *Armstead Robinson, 6265 Bunche Hall, 825-1985*

American History and Institutions 6265 Bunche Hall, 825-4601; *Sylvia Dillon, 6248 Bunche Hall, 825-3720*

Analysis & Conservation of Ecosystems Geography, 1255 Bunche Hall, 825-1071; *Lucy Benson, 1113 Bunche Hall, 825-1166; Charles Bennett, 1171 Bunche Hall, 825-1713*

Ancient Near Eastern Civilizations Near Eastern Languages, 376 Kinsey Hall, 825-4165; *John Callender, 376 Kinsey Hall, 825-4165*

Anthropology 341 Haines Hall, 825-2056; *Gloria Mann, 341D Haines Hall, 825-2511*

Arabic Near Eastern Languages, 376 Kinsey Hall, 825-4165; *Seeger Bonebakker, 376 Kinsey Hall, 825-4165*

Art 1300 Dickson, 825-3281; *Gayle Pica, 1300 Dickson, 825-3077*

Asian American Studies Special Program, Interdepartmental; Asian American Studies Center, 3232 Campbell Hall, 825-2974; *Ron Hirano, 3232 Campbell Hall, 825-2974*

Astronomy 8979 Math Sciences, 825-4434; *Bruce Margon, 8917 Math Sciences, 825-5755*

Atmospheric Sciences 7127 Math Sciences, 825-1217; *James G. Edinger, 7101 Math Sciences, 825-3057*

Berber Near Eastern Languages, 376 Kinsey Hall, 825-4165; *Chairperson, 376 Kinsey Hall, 825-1536*

Biochemistry Chemistry, 3034 Young Hall, 825-4219; *Dorothy Seymour, 4016 Young Hall, 825-1859*

Biology 2203 Life Sciences, 825-3481; *Roxane Alkaslassy, 2312 Life Sciences, 825-1680*

Bulgarian Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael Heim, 115 Kinsey Hall, 825-7894*

Chemistry 3034 Young Hall, 825-4219; *Dorothy Seymour, 4016 Young Hall, 825-1859; Kenneth Trueblood, 3042 Young Hall, 825-1259*

Chicano Studies Interdepartmental; Chicano Studies Center, 3121 Campbell Hall, 825-2363; *Carlos Haro, 3121 Campbell Hall, 825-2364*

Chinese Oriental Languages, 222 Royce Hall, 825-3340; *Kuo-yi Pao, 212C Royce Hall, 825-8165*

Classics 7349 Bunche Hall, 825-4679; *Evelyn Mohr, 7337 Bunche Hall, 825-3775*

Communication Studies 232 Royce Hall, 825-3303; *Marde Gregory, 232 Royce Hall, 825-2976, 825-3303*

Cybernetics Interdepartmental; Engineering—System Science, 4532 Boelter Hall, 825-6830; *Jack W. Carlyle, 4532J Boelter Hall, 825-6830; Nhan N. Levan, 4532G Boelter Hall, 825-2213*

Czech Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael Heim, 115 Kinsey Hall, 825-7894*

Dance 205 Women's Gym, 825-3951; *Wendy Urfrig, 205 Women's Gym, 825-8537*

Danish Scandinavian Languages, 332 Royce Hall, 825-2432; *Mary Kay Norseng, 327 Royce Hall, 825-3434*

Design Art, 1300 Dickson, 825-3281; *Gayle Pica, 1300 Dickson, 825-3077*

Diversified Liberal Arts Certificate Program; *see counselors in Letters & Science*

Dutch-Flemish Germanic Languages, 310 Royce Hall, 825-3955; *Robert S. Kirsner, 310 Royce Hall, 825-3955*

Earth & Space Sciences 3806 Geology, 825-3880; *Spring Verity, 3683 Geology, 825-3917; Clemens A. Nelson, 4686 Geology, 825-1363*

East Asian Studies Interdepartmental; *David M. . Farquhar, 8911 Math Sciences (mailing address: 6265 Bunche Hall), 825-3078*

Economics 2263 Bunche Hall, 825-1011; *Lora Clarke, 2253 Bunche Hall, 825-5118*

Economics—System Science Interdepartmental; Engineering—System Science, 4532 Boelter Hall, 825-6830; *Masanao Aoki, 4531K Boelter Hall, 825-2360; Jack W. Carlyle, 4532J Boelter Hall, 825-6830; Stephen E. Jacobsen, 4532E Boelter Hall, 825-2327*

Education—Business/Economics Education, 244 Moore Hall, 825-7635; *L.W. Erickson, 244 Moore Hall, 825-2626*

Engineering and Applied Science Undergraduate Office, 6412 Boelter Hall, 825-2942; *Janet Elliott, 6412 Boelter Hall, 825-2941; Richard Stern, 6426 Boelter Hall, 825-2036*

Also for:

Chemical, Nuclear & Thermal Engineering

Computer Science

Electrical Sciences and Engineering

Engineering Systems

Materials

Mechanics and Structures

System Science

English 2225 Rolfe Hall, 825-4173, 825-1389; *Edith Lufkin, 4305 Rolfe Hall, 825-1389*

English—Greek Interdepartmental; *see advisors in English and Classics*

English—Latin Interdepartmental; *see advisors in English and Classics*

Ethnic Arts Interdepartmental; 205 Women's Gym, 825-3951; *Wendy Urfrig, 205 Women's Gym, 825-8537, 825-3951*

French 160 Haines Hall, 825-1146; *Madeleine Korol-Ward (A thru L), 192 Haines Hall, 825-1210; Colette Brichant (M thru Z), 102 Haines Hall, 825-3315*

Geochemistry Earth & Space Sciences, 3806 Geology, 825-3880; *Spring Verity, 3683 Geology, 825-3197; Clemens A. Nelson, 4686 Geology, 825-1363*

Geography 1255 Bunche Hall, 825-1071; *Lucy Benson, 1113 Bunche Hall, 825-1166; Richard Logan, 1181 Bunche Hall, 825-1818*

Geography-Ecosystems Geography, 1255 Bunche Hall, 825-1071; *Lucy Benson, 1113 Bunche Hall, 825-1166; Charles Bennett, 1171 Bunche Hall, 825-1713*

Geology Earth & Space Sciences, 3806 Geology, 825-3880; *Spring Verity, 3683 Geology, 825-3197; Clemens A. Nelson, 4686 Geology, 825-1363*

Geophysics and Space Physics Earth & Space Sciences, 3806 Geology, 825-3880; *Spring Verity, 3683 Geology, 825-3197; Clemens A. Nelson, 4686 Geology, 825-1363*

German Germanic Languages, 310 Royce Hall, 825-3955; *Franz Bauml (A thru L), Eli Sobel (M thru Z), 310 Royce Hall, 825-3955*

Greek Classics, 7349 Bunche Hall, 825-4679; *Evelyn Mohr, 7337 Bunche Hall, 825-3775*

Hebrew Near Eastern Languages, 376 Kinsey Hall, 825-4165; *Herbert Davidson, 376 Kinsey Hall, 825-4165*

History 6265 Bunche Hall, 825-4601, 825-1069; *Sylvia Dillon, 6248 Bunche Hall, 825-3720*

Humanities Interdepartmental; 334D Royce Hall, 825-7650; *Leigh Haber, 334D Royce Hall, 825-7650; Katherine King, 334 Royce Hall, 825-7650*

Hungarian Germanic Languages, 310 Royce Hall, 825-3955; *Marianna D. Birnbaum, 2221C Bunche Hall, 825-3330*

Indigenous Languages of the Americas Linguistics, 2113 Campbell Hall, 825-0634, 825-5069; *see advisors in Linguistics*

International Relations Special Program; Political Science, 4289 Bunche Hall, 825-4331; *David O. Wilkinson, 3280 Bunche Hall, 825-3450, 825-4331*

Italian 340 Royce Hall, 825-3246, 825-3055; *Althea Reynolds, 340A Royce Hall, 825-3055*

Italian and Special Fields Interdepartmental—students wishing to major in the Italian and Special Fields major should see the undergraduate advisors in each Department (Anthropology, Art History, Classics, English, French, History, Linguistics, Music or Theater Arts, as well as Italian)

Japanese Oriental Languages, 222 Royce Hall, 825-3340; *Robert C. Epp, 212J Royce Hall, 825-3445*

Jewish Studies Near Eastern Languages, 376 Kinsey Hall, 825-4165; *Chairperson, 376 Kinsey Hall, 825-1536*

Journalism 360 Kinsey Hall, 825-4501; *Hazel Richmond, 360 Kinsey Hall, 825-4501*

Kinesiology 206 Men's Gym, 825-3891; *Linda Powell, 206 Men's Gym, 825-3891*

Latin Classics, 7349 Bunche Hall, 825-4679; *Evelyn Mohr, 7337 Bunche Hall, 825-3775*

Latin American Studies Interdepartmental; Latin American Center, 10343 Bunche Hall, 825-4571; *Kathleen Fischer, 10347 Bunche Hall, 825-3471*

Linguistics 2113 Campbell Hall, 825-5069, 825-0634; *Pamela Munro, Russell Schuh, Sandra Thompson, 2113 Campbell Hall, 825-5069*

Linguistics—English, French, Italian, Oriental Languages, Philosophy, Psychology, Spanish Students wishing to major in any of these interdepartmental majors should consult the undergraduate advisors in the Linguistics Department, as well as the undergraduate advisor in the other Department involved

Mathematics 6364 Math Sciences, 825-4701; *Sally Yamashita, 6356 Math Sciences, 825-4701*
Also for:
Math—Applied Science, Computer Science, System Science

Meteorology See Atmospheric Sciences

Microbiology 5304 Life Sciences, 825-3578; *W.R. Romig, 5925 Life Sciences, 825-4425*

Military Science 127 Men's Gym, 825-7381; *Lawrence Hinkle, Frederick Jones, Philip Taylor, Barrie Town, 127 Men's Gym, 825-7381*

Motion Picture—Television Theater Arts, 2310 Macgowan Hall, 825-5761; *Jim Birge, 1319 Macgowan Hall, 825-1766*

Music 2449 Schoenberg Hall, 825-4761; *Linda Palmer, 2438 Schoenberg Hall, 825-4761*

Naval Science 123 Men's Gym, 825-9075; *Dale E. Baugh, 123A Men's Gym, 825-9075; George A. Carlson, 128 Men's Gym, 825-9075; Kathryn Kane, Edward Messmer, 122A Men's Gym, 825-9075*

Near Eastern Languages 376 Kinsey Hall, 825-4165; *Chairperson, 376 Kinsey Hall, 825-1536*

Near Eastern Studies Interdepartmental; *Michael G. Morony, 6242 Bunche Hall, 825-1962*

Norwegian Scandinavian Languages, 332 Royce Hall, 825-2432; *Mary Kay Norseng, 327 Royce Hall, 825-3434*

Nursing 12-139 CHS, 825-7181; *Cecelia Holguin, 12-139 CHS, 825-7181*

Oriental Languages 222 Royce Hall, 825-3440; *see Chinese or Japanese*

Painting/Sculpture/Graphic Arts Art, 1300 Dickson, 825-3281; *Gayle Pica, 1300 Dickson, 825-3077*

Philosophy 321 Dodd Hall, 825-4641; *Donald Kalish, 366 Dodd Hall, 825-1476, 825-4641*

Physics 3-171 Knudsen Hall, 825-3224; *Robert Satten, 6-130H Knudsen Hall, 825-1522; Julie Sturm, 3-145A Knudsen Hall, 825-2453*

Polish Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael H. Heim, 115 Kinsey Hall, 825-7894*

Political Science 4289 Bunche Hall, 825-4331; *Vicki Waldman, 4250 Bunche Hall, 825-3862*

Portuguese Spanish and Portuguese, 5303 Rolfe Hall, 825-1036; *Eduardo Dias, 5328 Rolfe Hall, 825-1430*

Psychology 1283 Franz Hall, 825-2961; *Kristin Marr, 1531 Franz Hall, 825-2549*
Also for: Psychology—Biology, Psychobiology, Quantitative

Public Health School of Public Health, 16-035 Public Health, 825-5140; *Josephine Q. Alvarez, 16-068D Public Health, 825-7449*

Romanian Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael H. Heim, 115 Kinsey Hall, 825-7894*

Russian Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael H. Heim, 115 Kinsey Hall, 825-7894*

Scandinavian Languages 332 Royce Hall, 825-2432; *Mary Kay Norseng, 327 Royce Hall, 825-3434*

Serbocroatian Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael Heim, 115 Kinsey Hall, 825-7894*

Slavic Languages 115 Kinsey Hall, 825-2676; *Michael Heim, 115 Kinsey Hall, 825-7894*

Sociology 264 Haines Hall, 825-1313; *Mary Jo Johnson, 254B Haines Hall, 825-1215*

South Asian Languages Linguistics, 2113 Campbell Hall, 825-5069, 825-0634; *see advisors in Linguistics*

Spanish Spanish and Portuguese, 5303 Rolfe Hall, 825-1036; *Susan Plann, 5320 Rolfe Hall, 825-1430*

Speech See Communication Studies

Study of Religion Interdepartmental; *see counselors in Letters & Science*

Subject A 302 Royce Hall, 825-4515, 825-5796; *Pauline Ward, 302 Royce Hall, 825-4515*

Swedish Scandinavian Languages, 332 Royce Hall, 825-2432; *Mary Kay Norseng, 327 Royce Hall, 825-3434*

Theater Arts 2310 Macgowan Hall, 825-5761; *Jim Birge, 1319 Macgowan Hall, 825-1766*

Ukrainian Slavic Languages, 115 Kinsey Hall, 825-2676; *Michael H. Heim, 115 Kinsey Hall, 825-7894*

Urban Studies Special Program; *Robert Fried, 3333 Bunche Hall, 825-3660, 825-4331*

Urdu Near Eastern Languages, 376 Kinsey Hall, 825-4165; *Chairperson, 376 Kinsey Hall, 825-1536*

Women's Studies Special Program; 255 Kinsey Hall, 824-6172; *Lynn Grizzard, 255 Kinsey Hall, 824-6172*

Yiddish Germanic Languages, 310 Royce Hall, 825-3955; *Janet R. Hadda, 310A Royce Hall, 825-3955*

Zoology See Biology

About ASK

ASK is a network of 16 trained student counselors. ASK also sponsors meetings about educational and career concerns of UCLA students. ASK gives you a chance to get the guidance you need in an informal, conversational context.

You can find ASK at these locations:

Days Ackerman Union Monday-Friday 10 a.m. to 3 p.m.

Campbell Hall (North entrance) Monday-Friday 11 a.m. to 1 p.m.

Powell Library Monday-Friday 11 a.m. to 1 p.m.

Court of Sciences Monday-Friday 10 a.m. to 2 p.m.

Evenings All four undergraduate dorms Monday-Thursday 5:30 to 7:30 p.m.

If You're a "Pre-Health Care" Student

Specific counselors/advisors are listed below. You can also find general information as well as attend open counseling sessions. The Pre-Health Care Advisory Office is in 1332 Murphy Hall, Window 9, phone 825-1817. ASK Counselors in the Court of Sciences can provide further information and referrals. They are available at a table by the steps of the Chemistry Building (Young Hall).

Finally, specific "pre-health care" advising resources include:

Pre-Dental—School of Dentistry 53-038, School of Dentistry; Ms. Ann Beech, 10-137 School of Dentistry 825-7146; Prehealth Care Advising Office, 1332 Murphy, Window 9, 825-1817.

Pre-Dental Hygiene—School of Dentistry, 53-038 School of Dentistry; Prehealth Care Advising Office, 1332 Murphy Hall, Window 9, 825-1817.

Pre-Nursing—School of Nursing 12-139, Center for Health Sciences, 825-7181. Prehealth Care Advising Office, 1332 Murphy Hall, Window 9, 825-1817.

Pre-Optometry, and *Pre-Physical Therapy* students are encouraged to contact the Prehealth Care Advising Office, 1332 Murphy Hall, Window 9, 825-1817. Pre-Pharmacy students may contact Robert A. LeWinter, A722 Center for Health Sciences, 825-7101.

Pre-Law Advising

While individual pre-law counseling is not currently available, the College of Letters and Science holds bi-weekly open counseling sessions for those who need to know about application and selection procedures. These are advertised in "Campus Events" of the *Daily Bruin*. Other campus resources—see "Student Services" can also be quite useful to prospective law students. For LSAT preparation, consult the Learning Skills Center, 77 Dodd, 825-7744. For application and selection procedures and informational meetings times, phone 825-3160.

Alternative Academics

UCLA has a variety of options that allow you to bring an added dimension to your academic program.

Designing Your Own Major

The requirements that allow you to be eligible for an individual major vary with each College or School at UCLA. If you qualify—usually after submitting a detailed course of study under the sponsorship of a regular faculty member as well as maintaining the specified grade point average in your college or school—the individual major allows you to tailor your interests and scholarly pursuits.

Designing Your Own Classes

Most departments offer the "199" or individual study course for seniors or juniors with a "B" average or better who want to pursue a particular research interest. Consult your department, or the departmental listings in the "courses" section of this book for more information.

The Honors Collegium

The Honors Collegium is an alternative, innovative undergraduate program primarily for freshmen and sophomores. In 1980-81, it will offer six one-quarter courses carrying from 4 to 12 units of credit each:

HC 1 "Freedom and Control" (12 units, Fall Quarter)

HC 2 "The Flawed Giant: Contemporary America in Historical Perspective" (12 units, Winter Quarter)

HC 5 "The Anxious Voyage: A Main Theme in English and American Literatufe" (12 units, Spring Quarter)

HC 6 "Literature and Society. The Idea of the West" (8 units, Winter Quarter)

HC 7 "The Los Angeles Symposium. The Human and Physical Ecology of the City" (12 units, Spring Quarter)

HC 8 "The Origins of Old World Civilization" (4 units, Fall Quarter).

Students who have satisfied Subject A/English 1 and have a UCLA GPA of 3.0 or above or a SAT verbal score of 550 or above (if an incoming freshman) may enroll in these Collegium courses. The courses satisfy College of Letters and Science Breadth requirements. A combination of HC 1 and HC 2 satisfies the English 3/Composition requirement.

The primary goals of the Honors Collegium courses are to engage the energies and intelligence of UCLA's liveliest students in the interdisciplinary study of broad topics pertinent to contemporary society and, thus, to liberate them from the more compartmentalized approach to knowledge. For those students, study of the Collegium courses should be an active experience encouraging discussion, promoting the exchange of ideas among students, as well as between students and professors. Students thus participate actively in the educational process, repeatedly exposed to the contribution of a group of distinguished professors with varying and sometimes contradictory insights into the topic at hand.

Each course is under the direction of one faculty member with other distinguished faculty members and occasionally professionals from outside the College of Letters and Science also contributing their particular expertise. The advantages of the Collegium are the challenge, interdisciplinary approach to learning, small size of the classes, close student/faculty relations, distinguished faculty, and alternative means of fulfilling breadth requirements. Further, the Division of Honors offers Collegium students the expert guidance of professional counselors to assist them with academic problems and with the planning of an integrated academic program which reaches far beyond the Collegium.

For more information about the Honors Collegium, visit 1331 Murphy Hall or telephone 825-9869.

Programs for Freshman and/or Sophomores

UCLA features a range of programs centering on the concerns of new students. Among them are:

Orientation

The Orientation Program takes place at UCLA during the summer and prior to the start of the Winter and Spring Quarters. It brings extensive academic counseling and educational planning to all new undergraduates entering the university. Individual counseling (fulfills the academic advising recommended for all students and required by some schools and colleges) as well as peer group sessions are offered. In addition, Orientation gives new students various perspectives for dealing with common problems encountered by new students. Programs for parents are also offered. You can get information on the costs and dates of the Orientation Program by visiting 2224 Murphy Hall or by telephoning 825-3626.

Mentor Program

The Mentor Program at UCLA was created to ease the adjustment and acclimation of new students. Faculty, staff and advanced standing students are matched with entering undergraduates in order to personalize the UCLA experience. If you would like more information about the Mentor Program, drop by Campbell Hall 2229 or telephone 825-8425.

Freshman/Sophomore Seminars

Students who are interested in enriching their first-year experience at UCLA by benfiting from a program featuring small class size, association with a senior faculty member and no prerequisites, should look into the Freshman/Sophomore seminar program.

Credit is given for the Freshman/Sophomore program, applied differently depending upon your college or school.

You can get more information in room 374 Kinsey or by telephoning 825-2480.

Freshman/Sophomore Professional School Seminar Program

This program introduces students to the relationships which exist between various academic disciplines and professional practice. It also seeks to build upon the common characteristics which link various professions to one another. Students are introduced to these characteristics in the following way:

1. In order to find answers to problems, professionals must bring together information from varying disciplines.

2. Because of the way that social need often drives scientific investigation, all professionals must be sensitive to the complex interplay between basic research and social problems.

3. Professionals must bring their creativity to the task of translating theoretical knowledge into practical application.

4. Professionals are subject to high level and ethical standards because they exercise control over individuals and society.

Students seeking to define their own academic and career goals will find that these seminars provide a valuable opportunity to assess the role of professionals today and to understand the challenges and demands that stimulate professional activity. The program offers an unparalleled opportunity to be exposed to the views of professionals.

Professional School Seminars are usually offered in the winter and spring quarters. Seminar enrollment is limited in an effort to allow lower division students closer contact with an established member of a professional school faculty.

More information is available in room 2859 Slichter Hall, or by telephoning 825-2480.

Council on Educational Development (CED)

The Council on Educational Development (CED) was created by the Los Angeles Division of the Academic Senate in May 1968. The Council's purpose is to promote academic enrichment and encourage educational diversity and innovation. In fulfilling these objectives, the Council works closely with departments, colleges, schools and research centers on the UCLA campus.

The Council seeks out and, upon approval, supports academic projects, programs and individual courses of scholarly excellence not otherwise available in the University, including courses of timely or topical importance. The Council can offer a course as many as three times, although in principle the Council seeks to encourage departments and schools to adopt appropriate courses into their regular curriculum.

For information about CED courses consult the *Schedule of Classes* and the Registration and other selected issues of the *Daily Bruin*. If you want to find out about credit towards graduation for CED courses, you should consult your major department, college, or school. The CED office is located in 3121 Murphy Hall; telephone 825-5467.

Education Abroad Program

The Education Abroad Program provides opportunities for qualified UC students to earn a full year of academic credit while studying at overseas universities. Currently, there are EAP students enrolled on 44 campuses in 19 different countries. EAP students study with the local students of EAP-affiliated institutions in each country, giving them a unique opportunity to enhance greatly their language skills and to become involved in the culture of the host country, and university.

EAP participating institutions currently include:

Universities in the United Kingdom
- Birmingham
- Kent
- Edinburgh
- Leeds
- London School of Economics
- Polytechnic of Central London
- St. Andrews
- Stirling
- Sussex
- Exeter
- Bath
- Warwick
- Westfield College of the University of London

University College, Nairobi, Kenya

Universities in Israel
- Haifa
- Jerusalem (Hebrew University)

American University of Cairo, Egypt

Chinese University of Hong Kong

International Christian University, Tokyo, Japan

Universities in France
- Bordeaux
- Grenoble
- Marseille
- Montpelier
- Paris (Film Program)
- Pau-Paris
- Poitiers

Georg-August University, Goettingen, Germany

Trinity College, Dublin

Universities in Italy
- Padua
- Bolgna
- Venice

University of Bergen, Norway

Universities in Spain
- Barcelona
- Madrid

University of Lund, Sweden

National Autonomous University of Mexico (UNAM), Mexico City

University of Sao Paulo, Brazil

State University of Leningrad, USSR

University of Vienna, Austria

Pontifica Universidad Catolica del Peru

Designed primarily for undergraduates, the program is open to students who have upper division standing in the University, an overall B average, seriousness of purpose, and an indication of ability to adapt to a new environment. For the centers in Austria, France, Germany, Mexico, Peru and Spain, two years of university-level work in the language of the country with a B average (or equivalent thereof) are required. For all other centers, the language requirements are variable. Each UC Study Center abroad operates under the supervision of a UC faculty member.

Participants pay only the usual UC Registration and Educational fees. The full range of University financial aids is available. UC units and grade points are awarded for overseas courses. A complete range of orientation services are provided, including opportunities to meet with returned students and students attending UCLA from EAP-affiliated universities. Detailed information sheets about these campuses are available in the EAP office, 2221-B Bunche Hall, or by telephone at 825-4889 or 825-4995.

Experimental College

The Experimental College is open to all UCLA Students and offers a variety of innovative classes. There is no credit for Experimental College classes; you are not graded, either. Students also have an opportunity to design- and teach- classes.

You can find out more about the Experimental College by telephoning 825-2759 or 825-2815; 311 Kerckhoff Hall.

EXPO Center (Experiential Programs and Opportunities)

The Experiential Programs and Opportunities Center serves as an information clearinghouse and placement service for off-campus opportunities and provides UCLA students, faculty, and staff access to experiences which can supplement the traditional educational format of the lecture hall, laboratory and library.

It offers counseling and information in the following areas:

International opportunities. Provides counseling and information on international travel, overseas study programs, tours, charter flights, visas, passports, health regulations, accommodations, and student

discounts. Issues international student identity and youth hostel cards.

National opportunities. EXPO provides information on training programs, internships, grants and fellowships, student hostels, hotel discounts, transportation within the United States; maintains UCLA "ride board."

Local opportunities. Provides information on cultural, recreational and educational activities throughout Los Angeles and Southern California Areas.

The Center offers placement and brokerage services in the following:

Internship Programs. The Center administers the UCLA International, Washington, Sacramento, and Los Angeles Government Internship Programs. It supervises the Model United Nations Programs and the VITA Volunteer Income Tax Assistance Program.

Voluntary Action Center. Provides placement opportunities for volunteers in 3200 different social service agencies in Los Angeles requiring skills from sports to clerical.

For more information about EXPO programs, visit A213 Ackerman Union, or telephone 825-0831.

University Extension

University Extension, UCLA, offers more than 4200 classes and special programs each year, many of them innovative and experimental in content, format and teaching methods, with extensive use of media technology. Extension programs are designed to bring to adults in the community, on a part-time basis, the benefits of the talent, research and resources of the University of California. Credit and non-credit courses in nearly every academic discipline and in interdisciplinary areas provide opportunities for professional/career advancement; for expansion of cultural horizons; for development of scientific literacy; for growth in personal awareness and human interrelationships; for enhancement of capability to assess and deal with the great issues of politics and society in this era of fundamental reappraisal of established ideas and values. In the broad social view, Extension has a primary responsibility for the public service functions of the University, including community development programs and the application of University resources toward the solution of crucial statewide and urban problems.

Programs

Types of programs include regular campus-equivalent classes; lecture series; discussion groups; conferences, institutes, and short courses; community development and other public service programs; film and television series; correspondence study; residential programs; sequential certificate programs; studio/workshop courses in the creative and performing arts; an extensive creative writing program series; family field study trips and foreign travel-study programs; special programs for the blind and other handicapped; counseling and testing.

Credit

For information on transferability of credit earned through Extension toward the Bachelor's Degree at UCLA, please contact the Extension Information and Advisory Service (see "Additional Information" below).

Continuing Education Units

Many Extension non-credit programs offer the opportunity to earn CEU (non-credit Continuing Education Units). One CEU is awarded for each 10 contact hours of instruction. CEU are recorded on the student's transcript. They are widely accepted for relicensure and other professional/career-related purposes.

Additional Information

To obtain the current UCLA Extension catalog, call (213) 825-8895.

An Information and Advisory Service (IAS) is available to all for assistance in planning long or short-term study through Extension, for credit or not for credit. There is no charge for this service. Those interested may write, telephone or visit the IAS offices, Room 114, UCLA Extension Administration Building, at the southwest corner of the campus, 10995 Le Conte Avenue, Los Angeles, California 90024. Telephone (213) 824-6201.

Veterans may use the educational benefits available to them under Federal and State laws to enroll in University Extension classes, provided the classes are part of their prescribed and recognized objectives approved by the Veterans Administration.

Summer Sessions

UCLA offers two six-week Summer Sessions each year. Summer session study is designed to provide academic enrichment, to help students enroll in courses they were unable to take during the year because of schedule conflicts, to correct course deficiences in preparation for graduate school, and to offer small class size.

Credit

Summer session courses may apply toward the minimum unit requirement of the College of Letters and Science and the College of Fine Arts. Consult the Colleges to make sure.

The fees for Summer Sessions differ from those of regular academic quarters because Summer Sessions receive no state support.

Admission

Admission to a Summer Session does not constitute admission to a regular session. Students planning to attend the University in regular session are referred to the "admission" section of this catalog.

More information about Summer Sessions is available at 1254 Murphy Hall; telephone 825-8355.

The University Library

The University Library system consists of nineteen libraries which are designed to serve the study and research needs of students, faculty, and staff in all the academic and research disciplines offered on the campus. The libraries collectively contain more than four million volumes and extensive holdings of government publications, newspapers, pamphlets, manuscripts, microforms, music scores, slides, maps, and recordings in cassette, video cassette, and tape form. Access is offered to a wealth of information stored in computerized form. In addition, students, faculty, and staff have ready access to the resources of the Southern California Interlibrary Loan Network, the Center for Research Libraries, and the other UC libraries through interlibrary loan or direct borrowing. The Library regularly receives nearly 60,000 serial publications, which are listed in a library publication, *Serials Currently Received at UCLA*. This may be consulted at principal service points in campus libraries. Card catalogs in each library and a variety of microfiche catalog supplements list all cataloged and partially-cataloged books in those libraries. The main card catalog in the University Research Library lists holdings in all campus libraries and the William Andrews Clark Memorial Library.

Students have access to the stacks of most of the libraries at UCLA. Orientation to and guidance in the use of campus library facilities, collections, and services is available at each campus library. Self-service photocopying machines for copying periodical articles and portions of books are available in most library units on campus.

University Research Library

Here are found the principal collections in the social sciences and humanities, in open stack arrangement, with seating for 2,000 readers. In addition the Reference Room, Circulation Department, and the Periodicals Room are located here, serving these collections. The Microform Reading Service, housing some 400,000 microforms of newspapers, periodicals, and books, contains a variety of reading and copying equipment. The Graduate Reserve Service places books on reserve in open stacks for graduate courses.

Extensive study and research facilities are provided in the University Research Library, including typing and group study rooms and a self-service photocopy center.

The College Library

The services and collections of the College Library, located in the Lawrence Clark Powell Library Building, are designed to meet most of the basic study needs of undergraduates. The College Library book and

periodical collections are maintained in open stacks, with course reserve materials available for loan at the Circulation Desk. Microform materials may also be found. Full reference services are offered by librarians at the Reference Desk. The College Library maintains in its Audiovisual Services cassette collections of poetry readings, plays, speeches, and documentaries, and a selection of popular music. A variety of equipment, including audio cassette and video cassette players, is available in this special service. Study carrels and reading rooms are found throughout the building. Typing facilities are also provided. The College Library also offers a self-paced, self-directed non-credit course of instruction in the use of the library, "Learning Library Skills," for a charge of $5.00.

The Department of Special Collections, in the Research Library, contains rare books and pamphlets, manuscripts, the University Archives, certain subject collections of books, early maps, and files of early California newspapers.

Other collections of rare materials are the *Belt Library of Vinciana* in the Art Library, the *Benjamin Collection of Medical History* in the Biomedical Library, and the *Gross Collection of Business and Economic History* in the Management Library.

The Public Affairs Service. Located in the Research Library, this department provides a coordinated service embracing collections of official publications of governments and international organizations and of other books and pamphlets in the social sciences. It is a depository for the official publications of the United States government, the State of California, California counties and cities, the United Nations and some of its specialized agencies, and a number of other international organizations. Also available are selected publications of the other states and possessions of the United States, publications of foreign governments, books and pamphlets on local government, and reference and pamphlet materials on industrial relations and social welfare. This service provides access to research data which are available on computer tapes.

Other Campus Libraries

The resources of the special libraries on the campus are devoted mainly to the subjects of concern to the departments or professional schools in which they are situated. The libraries serve primarily these departments and schools, but their resources are available to all students and faculty members of the University.

The Biomedical Library, in the Center for the Health Sciences, has collections in all of the health and life sciences. Materials for engineering, astronomy, meteorology, and mathematics are kept in the *Engineering and Mathematical Sciences Library.* Education, kinesiology, and psychology are the principal subjects served by the *Education and Psychology Library,* which also has collections in the field of Teaching English as a Second Language. The *Management Library* serves the Graduate School of Management and the myriad subject fields relating to business and management. The following libraries support the University's curricula: *Architecture and Urban Planning, Art, Chemistry, Geology-Geophysics, Law, Map, Music, Oriental Languages, Physics, Theater Arts,* and the *University Elementary School.*

The Library Photographic Service, in the Powell Library Building, offers complete documentary photographic service, where photostats, microfilms, slides, ozalid prints, and other photographic work are done.

Supplementing the University Library is the William Andrews Clark Memorial Library of about 75,000 books, pamphlets, and manuscripts, featuring English culture of the seventeenth, eighteenth, and nineteenth centuries, and the history of Montana. Materials in the Library do not circulate. The Clark Library sponsors an annual program of summer postdoctoral fellowships. The areas of study are based on the particular strengths of the Library's holdings. Each year a Clark Library Fellowship is granted to a UCLA graduate student working toward a doctorate within one of the Library's fields of interest, and each year also an eminent scholar is brought to the Library as its Senior Research Fellow. A distinguished scholar is appointed each year to the Clark Library Professorship. This Library is not on the University campus, but is situated at 2520 Cimarron Street, at West Adams Boulevard.

The Clark Library is open Monday through Friday from 9 a.m. to 4:45 p.m. Leaflets describing the Clark Library are available at the Reference Desk in the Research Library, and information on University transportation to the Clark Library may also be obtained here.

Computer Reference Services are offered on a partial cost-recovery basis by reference librarians in the Research Library Reference Department, the Public Affairs Service, the Education and Psychology Library, the Biomedical Library, the Engineering and Mathematical Sciences Library, the Physics Library, the Chemistry Library, and the Geology-Geophysics Library. The services are based on computerized versions of a number of important abstracting and indexing publications, primarily covering subjects in the fields of the social, life, health, and physical sciences, technology, and education. Descriptions and price lists are available at reference desks throughout the Library system.

The resources and services of all the campus libraries are available to all students, faculty, and staff of the University. A Library handbook, describing the organization and services of the University libraries and listing their schedules of hours, may be obtained in any of the campus libraries.

Research Facilities, Museums, Other Resources

Recognizing the value of an interdisciplinary approach to the search for knowledge, the University maintains Regentally designated organized research units and other research programs outside the usual departmental structure. An organized research unit consists of an interdepartmental group of faculty and students engaged in research with them. Research units aid research and may enhance the teaching of participating members of the faculty, but they do not offer regular academic curricula or confer degrees. They may provide research training to graduate students employed in research programs with faculty supervision. These units, along with more specialized activities in focal fields, provide significant support to the educational program and enhance the overall academic quality of the institution.

Universitywide

The **Institute of Geophysics and Planetary Physics** is engaged in interdisciplinary programs related to studies of the interior of the earth, moon, and other planets, the fluid and gaseous parts of the planets, and interplanetary space. Major research programs being actively explored in the laboratories of the Institute include investigations into the origin of the magnetic field; the configuration of the earth's magnetic field in space; the earth-sun interaction; structure and properties of the lunar surface and interior; meteorites; origin of the earth's magnetic field; the history of the solar system; astrophysical plasmas; high energy astrophysics; ocean-atmosphere interactions; seismology; earthquake control and prediction; internal structure of the earth; earth tides; continental drift and plate tectonics; properties of materials under high pressures and temperatures; mineral synthesis; radiocarbon archaeology; geochronology; glaciology; petrology and metamorphism; isotope geochemistry; origins of life; man's interaction with the environment.

The laboratory facilities of the Institute and its faculty are available to guide the dissertation research of students in the physical sciences, including the Departments of Earth and Space Sciences, Physics, Chemistry, Mathematics, Atmospheric Sciences, Astronomy, Engineering and Anthropology.

Leon Knopoff, Associate Director

Campuswide

The **Institute of American Cultures** is charged with promoting and coordinating the activities of the four ethnic centers—the Center for Afro-American Studies, the American Indian Studies Center, the Asian American Studies Center, and the Chicano Studies Center. The Institute conducts no research itself, but fulfills its purpose by making research funds available to the ethnic centers and by encouraging and coordinating the

efforts of the centers to recruit faculty and develop new instructional programs. The Institute is guided by an Executive Committee consisting of the four center directors, three faculty members (one of whom serves as the chair), and the Vice Chancellor for Institutional Relations (ex officio). The Director of the Institute is the Executive Vice Chancellor.

The **Center for Afro-American Studies** is an organized research unit established on the UCLA campus in 1969. Its basic mission is to encourage and support research that enhances the interpretation of the Afro-American experience. Pursuant to this objective, it provides faculty and graduate student research grants, sponsors in-house research projects, offers fellowship and scholarship awards, supports interdisciplinary symposia, encourages related curriculum development, and most important, relates these findings to the community-at-large via lectures, publications, and cultural programs.

Claudia Mitchell–Kernan, Director

The **American Indian Studies Center** acts as an educational catalyst in a variety of ways. It encourages new programs of study, promotes faculty development and systematic research, and develops library materials and curricula related to American Indian Studies. In addition, the Center is involved with the cultural activities of the Indian community and sponsors lectures, symposia, conferences, and workshops relevant to American Indian development. Special emphasis is placed upon coordinating the educational needs of American Indian students with the University and the Community.

Charlotte Heth, Acting Director

The **Asian American Studies Center** seeks to provide a deeper understanding of a particular area of study by the development of related human and material resources. It promotes the systematic development of material resources related to Asian American studies through an aggressive library acquisitions program, coordinated interdisciplinary research, and a broad publications program. Human resources are nurtured by vigorous curriculum development efforts, and courses have been designed with degree-granting programs at both the undergraduate and graduate levels. The Center supports and encourages promising graduate students and postdoctoral scholars to pursue their interests in this vital field of study, as well as sponsoring a variety of conferences, lectures, symposia, and cultural events. In addition, the Center supports a wide variety of projects designed to channel the resources of the University and the fruits of the Center's other areas of activity to Asian American communities.

Lucie Cheng Hirata, Director

The **Chicano Studies Center** is an organized research unit established at UCLA in 1969. Its main purpose is to facilitate interdisciplinary academic research related to the Chicano experience. Pursuant to this primary purpose, the Chicano Studies Center seeks the development of Chicano Studies as a unique and scholarly area of activity recognizing that the University and national development of Chicano Studies are interrelated. The objectives of the Chicano Studies Center are: (1) to initiate, conduct, and support faculty and student development in Chicano Studies; (2) to identify, explore, collect and document original research on critical issues facing the Chicano community; (3) to support the creation and development of Chicano Studies at other institutions, and the organization of professional associations, conferences, and meetings devoted to Chicano Studies; and (4) to facilitate public service by focusing the unique research, publications, and material collection development resources of the University on the Chicano community.

Juan Gomez–Quiñones, Director

The **Institute of Industrial Relations**, authorized by the Legislature of the State of California in 1945, is concerned with two principal types of activity. The first is an interdisciplinary research and publishing program directed primarily toward the study of labor-management relations, wages and related problems, economic security programs, the labor market, occupational safety and health, the quality of working life, the status of disadvantaged groups in the work force, labor law, labor history, comparative studies, and employment problems. Research staff members of the Institute are usually drawn from the regular faculties of the Graduate School of Management, the Departments of Economics, History, Psychology, Political Science, and Sociology; and the School of Law. This program affords opportunities to graduate students specializing in personnel management and industrial relations to engage in investigative work under expert guidance. The second main activity consists of community and labor relations programs serving unions, management, the public, and other groups interested in industrial relations. The programs consist of public lectures, conferences, symposia and institutes of varying duration, and include a series of courses through University Extension leading to a Certificate in Industrial Relations. Daniel J. B. Mitchell, Director

The **Institute for Medical Engineering**, approved by the Regents in 1976, will, when it is activated, provide a physical and intellectual multi-disciplinary environment for faculty and students to conduct research on important medical problems which lie at the interface of health science and engineering. It will seek to encourage the application of the most creative engineering and medical techniques to problems of direct medical significance. As an interdisciplinary organization, it will include faculty participants from the Schools of Engineering, Medicine, Dentistry and Public Health, and will anticipate a growing involvement with other departments and schools. The Institute will receive support from a number of sources, including the University, a large private endowment, Federal and State agencies, foundations and gifts. Coordinator for the Institute until the Director is announced: Frederick G. Allen, 7714 Boelter Hall, School of Engineering and Applied Science.

The **Molecular Biology Institute** was established to serve various interested departments of the biological, medical, and physical sciences in the coordination, support, and enhancement of research and training in molecular biology. Interests and activities of the Institute encompass all approaches which aim to explain biology at a molecular level, with particular emphasis on correlation of structure and function. These include study of structure and function of macromolecules, molecular genetics, and virology; bioenergetics, catalysis and control; molecular basis of cellular architecture, development, evolution, neurobiology and oncology. Staff members from departments in biological, physical, and medical sciences participate in Institute programs, and the Institute aids departments in graduate training and postdoctoral programs in the general area of molecular biology.

Most of the Institute staff are housed in the Molecular Biology Institute building completed in 1976. Approximately one-half of the building space is devoted to the Parvin Cancer Research Laboratories. The Institute building is located adjacent to the Chemistry, Biology and Bacteriology Departments and close to the School of Medicine.

Paul D. Boyer, Director

The **Laboratory of Nuclear Medicine and Radiation Biology** conducts research in the fields of biomolecular and cellular science, environmental biology, and nuclear medicine. It is funded through a contract with the Department of Energy (formerly ERDA and AEC). Research and training in nuclear medicine is conducted at the Center for the Health Sciences. Most of the remaining program is conducted in Warren Hall, located on the West Medical Campus.

Warren Hall is well-equipped with modern research tools including a cobalt radiation source with an activity of 10,000 curies at the time of installation. The Laboratory also operates a biomedical cyclotron at the Center for the Health Sciences which produces isotopes and is capable of activating procedures in support of its research programs. The Laboratory staff consists of about 190 scientists, technicians and supporting personnel representing many disciplines. Graduate student and postgraduate research programs are supervised by the staff in several fields. O. R. Lunt, Director

Dentistry

The **Dental Research Institute,** located mainly on the 7th floor of the School of Dentistry, involves faculty, graduate and profes-

sional students doing original research in six program areas as follows: (1) Immunology/ Immunogenetics; (2) Periodontal Disease/ Oral Ulcerations Disease; (3) Ultrastructure and Cell Biology; (4) Oral Neurology; (5) Craniofacial Biology; and (6) Biomaterials Science. M.S. and Ph.D. students are sponsored by individual Institute faculty members. An informational brochure outlining current studies of Institute members is available from the Office of the Director (CHS 43-180, Ext. 55478).

William H. Hildemann, Director

Letters and Science

The **African Studies Center** provides a framework for furthering teaching and research on Africa involving social sciences, education, linguistics, humanities, fine arts, law, the health sciences and the natural sciences. The Center participates in an interdisciplinary master's degree program in African Area Studies and in an undergraduate program in conjunction with degrees in the social sciences or African languages. The Center has also become increasingly involved in special programs which entail the dissemination of knowledge about Africa to the larger community. Through its Research Committee, the Center makes grants to assist UCLA faculty members and students with research on Africa. It participates in administering the NDEA Title VI fellowship awards for the study of African languages, and offers a limited number of supplementary grants-in-aid to students both in master's and in doctoral programs whose focal point is Africa. The Center provides information to faculty and students on extramural sources of research support and employment opportunities which require knowledge of Africa. It also brings Africanists to the University for lectures or as Visiting Professors or Research Associates, and sponsors interdisciplinary colloquia focused on integrative and innovative themes. Other Center activities include the publication of quarterly journals, *African Arts*, UFAHAMU, a student journal, *Studies in African Linguistics*, and *The Journal of African Studies, African Law Studies, The African Studies Center Newsletter, Research in Progress*, as well as occasional papers and books based on the interdisciplinary colloquia. The Center also provides facilities for a student organization, the African Activist Association, which is active in sponsoring events that focus public attention on important aspects of African culture or politics.

Michael F. Lofchie, Director

The **Institute of Archaeology** was established in the summer of 1973 for the purpose of developing and coordinating all aspects of activities relating to archaeology. Its goal is to contribute to the ideal of a comprehensive interdisciplinary reconstruction of the human past, as evidenced especially from artifactual remains.

The Institute includes faculty members from eleven academic units at UCLA, as well as faculty from various other UC campuses. It provides an intellectual focus for all University of California archaeologists, facilitating the exchange of views on theoretical models and technical developments. It does so by sponsoring lectures, seminars, symposia and arranging for visiting faculty; it also helps support excavation programs of the individual archaeologists active on campus. Through the Archaeological Survey, the Institute serves the needs of California archaeology, especially in the southern part of the state. Besides occasional publications, the Institute issues a yearly journal, a series of technical monographs and a series devoted to major archaeological reports and investigations. The Institute has recently expanded its laboratory facilities for the analysis of ceramics, bones, metals and other materials. These are largely manned by graduate students in archaeology. Its archives, such as those devoted to rock art and archaeological sites in Southern California, provide an important research resource for archaeologists, historians, folklorists, art historians and other interested scientists. Given the considerable amount of public interest in archaeology, the Institute promotes a variety of activities which serve a broadly based need in the off-campus community, such as an Extension curriculum in archaeology, field trips, public lectures and publications for the interested lay public.

Giorgio Buccellati, Director

The **Center for the Study of Comparative Folklore and Mythology** is an interdisciplinary research facility that supports and coordinates the comparative study of folklore and mythology from throughout the world. Research facilities in the Center suite include the Wayland B. Hand Library of Folklore and Mythology, the Western Folklore Archive, the John Edwards Memorial Foundation, a recording study and sound laboratory, and collections of field recordings, phonograph records, films, and slides. Center-sponsored research projects include such diverse subjects as the mythologies of the Indo-European peoples, American popular beliefs and superstitions, American legends, Anglo-American ballads, Irish narrative songs, Chicano traditional arts and oral history.

Patrick K. Ford, Director

The **Latin American Center** is an organized research unit providing support for the multidisciplinary study of Latin America. With over 90 affiliated faculty and visiting scholars, the Center is a major resource for individual and collaborative research activities in the social sciences, arts, humanities, and professions. Cooperation between the Center and seven colleges and professional schools of the University is facilitated by the Dean's Advisory Committee for Latin American Studies.

Designated as a "center of excellence" by the U.S. Department of Education, the NDEA Latin American Language and Area Studies Center at UCLA supports the interdisciplinary B.A. and M.A. degree programs in Latin American Studies and coordinates articulated graduate degree programs with the Schools of Public Health, Library and Information Science, Management, Education, and Engineering and Applied Science. NDEA Title VI fellowships, research assistantships, and grants-in-aid are available to students in the graduate degree programs.

The Center also sponsors an extensive program of lectures, films, colloquia, and other special events for the University and general public. Additional outreach activities include pre-collegiate curriculum development, special offerings through University Extension, programs for community college instructors, and participation in the Southern California Conference on International Studies.

The Center publishes a series of documentary and scholarly publications, which are the *Statistical Abstract of Latin America*, the *Latin American Studies Series*, the *Reference Series*, the *Journal of Latin American Lore*, and the *Hispanic American Periodicals Index (HAPI)*.

Ludwig Lauerhass, Jr., Director

The **Center for Medieval and Renaissance Studies** is an Organized Research Unit of the University of California. The Center does not currently offer courses or degrees, but it contributes to the goals of the institution in various ways.

The Center seeks to encourage multi-disciplinary attitudes and skills as it promotes, among some twenty UCLA departments, the study of Western civilization between 300 and 1650 A.D., from the early Christian period through the time of Milton. Accordingly, the Center encompasses the arts and sciences, history and languages, and it embraces the Latin West, Byzantium, Islam, Judaism, the minor Christian communities, and the various slavic communities, as well as the Germanic and Celtic worlds. The Center seeks to furnish opportunities, facilities, and assistance for individual research and interdepartmental exchanges; it appoints postdoctoral associates and visiting professors; it sponsors lectures and organizes coordinated cultural enterprises such as conferences and colloquia. Through books and television programs, it makes the findings of scholars available to both the acadamic community and the general public.

Students working in Medieval and Renaissance fields enjoy excellent resources at UCLA. Among the major research tools available on campus are the Berenson photographic file and the Princeton Index of Christian Art, the Belt Library of Vinciana, the Biomedical Library's collections in the history of medicine, and the manuscript holdings in the Music Department and in the Research Library's Special Collections. As of 1979, UCLA was estimated to have more than 390,000 volumes in the fields of special interest to the Center, supplemented by growing collections in Judaica and Near

Eastern Studies. Nearby are the manuscripts and printed riches of the Huntington and Clark Libraries. Fredi Chiappelli, Director

The **Gustave E. von Grunebaum Center for Near Eastern Studies** was established to promote individual and collaborative research and training in this area. The Center encourages the research of individual faculty members and collaborates in the solution of basic research problems which require institutional backing. The Center also sponsors lectures, seminars and conferences on various topics falling within the scope of Near Eastern studies, and actively promotes an extensive publication program.

Speros Vryonis, Jr., Director

The **Center for Russian and East European Studies** was established to promote, assist and coordinate research and training on Russia and the countries of Eastern Europe. It furthers the research of individual faculty members and graduate students, sponsors colloquia, seminars and lectures, organizes conferences, and participates, with other universities, in academic exchange programs with Russia and Eastern Europe.

Barisa Krêkić, Director

The **Institute for Social Science Research (ISSR)** undertakes basic and policy studies on a broad spectrum of contemporary sociological, psychological, political and economic problems and other social-related community issues. The Institute encourages collaborative research between faculty in the various social science departments as well as cooperative projects that involve members of the professional schools. The core staff of the Institute provides research consultation and supportive services to University faculty members engaged in research investigations as well as advice on the designing and funding of projects. From time to time, the Institute offers special opportunities for graduate students to gain research experience. As funds permit, the Institute provides seed-funding for project development and pilot studies.

An integral part of the Institute is the **Survey Research Center (SRC)** which not only serves the UCLA faculty but investigators from other universities and research groups in the local and national social research community. Several times a year, SRC undertakes studies of Los Angeles County residents that provide research information to a number of different investigators. These multi-purpose surveys allow researchers to economically obtain data-sets on large representative samples of Los Angeles County citizens.

The current research program includes studies in medical care, mental health, human development, law, demography, economic resources, gerontology, energy and economic behavior.

Howard E. Freeman, Director

Management

The **Western Management Science Institute** fosters research and advanced study in management science and operations research, with special emphasis on developments needed for more effective practical applications. The Institute conducts mathematical and computer-oriented studies on a variety of subjects. These include the construction of optimization models for production and distribution systems, finance and marketing policies, conservation of natural resources, and resource allocation in organizations. Appropriate tools of decision-analysis, mathematical programming, and simulation are being developed and applied. The basic economics of decision and information systems are also being studied.

In addition to its research programs, the Institute is engaged in developing faculty resources and graduate curricula in the management sciences, and in sponsoring workshops and seminars such as the Jacob Marshak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences.

Although composed largely of faculty members of the Department of Management, the Institute staff is interdisciplinary. Fruitful collaborative relationships have occurred with the departments of Economics, Engineering, Mathematics, Political Science, and Psychology.

J.C. LaForce, Acting Director

Medicine

The **Brain Research Institute** provides an environment for research in the neurological and behavioral sciences for investigators particularly from the behavioral, health and life sciences fields but also from the physical sciences and engineering. Three principal goals of the Institute are: (1) to support and conduct research which contributes to an understanding of brain mechanisms and behavior; (2) to contribute to the training of predoctoral and postdoctoral students for professional careers in brain science; (3) to develop and disseminate information about brain function in the interest of the social and scientific communities. Located in the Center for the Health Sciences, the Institute conducts programs which are largely interdisciplinary. General activities include attention to such broad fields of interest as neurobiology, neurophysiology, neurochemistry, neuroanatomy, neuropharmacology, neuroendocrinology, neuropsychiatry, biophysics and communications, neuroimmunology, behavior and neuropathology.

Carmine D. Clemente, Director

The **Jules Stein Eye Institute** is a comprehensive facility located within the Center for the Health Sciences, devoted to research in the sciences related to vision, the care of patients with eye disease and the dissemination of knowledge in the broad field of ophthalmology. Incorporated in this structure are outpatient, inpatient and operating room facilities for the care of patients with opthalmic disorders; areas for research in the sciences related to vision; and facilities for scientific reading, lectures and seminars. The Institute affords a unique opportunity for the training of students in the School of Medicine, residents and graduate physicians., as well as postgraduate and postdoctoral fellows in fields related to vision science. A close relationship with graduate and undergraduate research and teaching facilities at UCLA is maintained.

B.R. Straatsma, Director

The **Mental Retardation Research Center** provides laboratories and clinical facilities for basic and applied research and research training in mental retardation and related aspects of human development. Its interdisciplinary activities range from molecular biology to epidemiology. The Center is closely allied with a Professional Education and Clinical Services Facility, which promulgates interdisciplinary training in the evaluation and treatment of mentally retarded and otherwise disturbed children and their families. Together, these two units comprise a total program directed toward a major public health program.

Nathaniel A. Buchwald, Director

Museums, Galleries, Special Facilities

The **Frederick S. Wight Art Gallery** is located in the Dickson Art Center at the north end of the campus. The permanent holdings include the Franklin D. Murphy Sculpture Garden, 69 sculptures from the 20th century including Arp, Calder, Lachaise, Lipchitz, Moore, Noguchi, Rodin and Smith.

Twelve exhibitions of painting, sculpture, prints and drawings, architecture and design are presented annually in close conjunction with the UCLA Museum of Cultural History and the Grunwald Center for the Graphic Arts. One major exhibition yearly is sponsored by the UCLA Art Council, the supporting organization of the Gallery.

During the 1979-80 year, the Gallery had exhibitions of Amish Quilts, Dowries from Kutch (a Women's Folk Art Tradition in India), Louis M. Eilshemius in the Hirshhorn Museum, UCLA 50th Anniversary (presented by the Grunwald Center for the Graphic Arts), American Impressionism, New American Monotypes, 20th Century American Drawings from the Whitney Museum of American Art, as well as undergraduate and graduate student exhibitions of the UCLA Department of Art. The Gallery is open Tuesday through Friday, 11:00 a.m. - 5:00 p.m. and Saturday and Sunday, 1:00 - 5:00 p.m. There are daily tours at 1:00 p.m. and group tours by appointment (phone: (213) 825-3264).

Jack B. Carter, Acting Director

The **Grunwald Center for the Graphic Arts** which houses a distinguished collection of prints and drawings, is maintained as a study and research center for the benefit of students, scholars and collectors, as well as the

general public. The permanent holdings of the Center include significant examples from the 15th century to the present which were originally selected to complement courses given in the history and connoisseurship of the graphic arts. It is particularly noted for its collection of German Expressionist prints formed by Fred Grunwald, as well as for specialized collections in 19th and 20th century lithography (including the Tamarind archive), the history of ornament, Japanese prints (including the Frank Lloyd Wright collection), and comprehensive holdings of Matisse, Picasso and Rouault. Several major exhibitions are organized each year accompanied by the publication of a scholarly catalogue. E. Maurice Bloch, Director

The **Museum of Cultural History** (formerly The Museum and Laboratories of Ethnic Arts and Technology) comprises growing collections of objects which represent a wide range of the material culture, and specifically of the arts, of peoples who lived until recently at, or beyond, the margins of the major Oriental and Occidental civilizations. These collections represent the arts and archaeology of Africa, Melanesia, the Americas, the Ancient Near East, the circum-Mediterranean cultures, the European, Neolithic and Bronze ages, and the folk arts of Latin America, Europe, and the Orient.

The Museum promotes the study of arts and artifacts as one of the most important avenues toward an understanding of man's cultures. As a resource for UCLA faculty, students, visiting scholars and the general public, the Museum offers assistance with instruction, research field work, exhibitions, and seminars, and sponsors exhibitions, lecture programs, symposia and publications.

In the community, the Museum directs a satellite museum program which organizes and mounts exhibitions that are located throughout greater Los Angeles, particularly in culturally disadvantaged areas, and a prehistory program which is designed to make children familiar with museum objects in a classroom setting. Trained volunteers teach classes in prehistoric archaeology in the Los Angeles City School System.

The Museum has an 1,800 square foot multipurpose facility which is used primarily for exhibits directly related to teaching and research, a focus for classes, seminars, and lectures. Designed as a home for many University, Museum, and community activities, the Gallery enhances the effectiveness of existing programs and gives impetus to further development. The exhibitions highlight various aspects of the Museum's collections.

Christopher B. Donnan, Director

The 8-acre **Mildred E. Mathias Botanical Garden** contains a useful teaching and research collection of about 4,000 species of plants of the world. Included are a native section, desert garden, lath-house, and experimental field. Adjoining is the Plant Physiology Building, with glass houses and growth chambers. The Herbarium contains a teaching and research collection of about 250,000 specimens representative of the flora of the world, with special collections of the native flora and of ornamental species cultivated in Southern California.

Jonathan Sauer, Director

The **Office of Academic Computing (OAC)** is responsible for all general-purpose computing activities on the UCLA campus. In support of instructional and research activities, OAC provides a broad range of computing services to the UCLA academic community and, through a nationwide computer network, to institutions throughout the United States. The principal computing resource is an IBM System/370, 3033 computer. The 3033 is available to all departments and schools within UCLA, and timesharing terminals and remote-job-entry stations are located throughout the campus.

Both interactive and batch methods are available for performing work on the 3033. Interactive terminal-oriented systems available are APL *PLUS (STSC's version of A Programming Language), TSO (IBM's Time Sharing Option), and WYLBUR. The 3033 supports standard MVT batch services as well as a fast, student-oriented batch service (QUICKRUN). Turnaround for jobs run on the 3033 typically ranges from under a minute for student jobs to under an hour for jobs requiring extensive setup operations.

OAC also maintains a DEC (Digital Equipment Corporation) PDP-OKA computer, principally for student use. Any member of the UCLA student body or faculty can individually establish an account for using the PDP-10. Other noteworthy equipment provided to OAC users is special equipment for graphics work: two plotters (a CalComp 936 Drum Plotter and a Versatec 1200A Electrostatic Plotter) and several Tektronix graphics display devices (models 4081, 4051, and 4013).

Computing activities are supported by an extensive library of application programs, consulting services, and reference documentation. The applications program library for the 3033 includes a wide range of statistical, engineering and mathematical software. Several FORTRAN and PL/1 compilers, as well as other esoteric computer languages, are also supported on the 3033.

W.B. Kehl, Director

The **Division of Laboratory Animal Medicine** is the centralized animal resource facility responsible for the procurement, husbandry and general welfare of animals required for teaching and investigative services. The Division's veterinary and support staff administers the veterinary medical and husbandry programs throughout the campus. The Division's veterinary programs and physical facilities have been approved for full accreditation by the American Association for Accreditation of Laboratory Animal Care.

Jessie O. Washington, D.V.M., Director

The University of California **Natural Land and Water Reserves System** offers 25 reserves statewide to be used for field studies in unspoiled natural sites and for protected scientific experiments. Graduate students at UCLA regularly use several of these for thesis and dissertation research, including the 14,000-acre Boyd Deep Canyon Desert Research Center and the 56,000-acre Santa Cruz Island Reserve, both of which have field stations. A complex of three Santa Monica Mountain Reserves administered by UCLA is close enough to the campus for easy daily access.

Jonathan Sauer, Campus Representative

Zoological collections of the Department of Biology include a research collection of marine fishes, primarily from the eastern Pacific and the Gulf of California, and the Dickey Collection of birds and mammals, primarily from the western United States, western Mexico and Central America. The Department also maintains a more limited collection of amphibians, reptiles and fossil vertebrates. Through a cooperative arrangement, the large zoological collections of the Los Angeles County Museum, containing both fossil and recent specimens, are available for research by qualified students.

The department also maintains an extensive collection of algae, and a smaller collection of fungi and bacteria (including photosynthetic bacteria). These collections, which are part of the culture facility, are available for both teaching and research.

UCLA is a member of the Organization for Tropical Studies, a consortium created to promote research and educational programs in the New World tropics. Fellowships are available for subsistence in field-oriented programs in Central America.

A Note About Resources

Academics form the focus of endeavor for the UCLA community, but other resources—health care, psychological counseling, learning skills, veteran's affairs, and so on—also come into play in the course of any experience here. These additional resources are listed in the "student services" section of this book.

Finally, you may have noticed that nearly all of the academic resources discussed in this section carry room number and/or telephone number information. The reason for that is at once simple and powerful: If you want help, it's there in a variety of useful programs . . . but it's up to you to seek it out.

money at UCLA

In this section you will find a detailed discussion of various fees and other financial obligations—as well as some of the ways to meet them.

Finding out about Financial Aid is a worthwhile investment of your time. Don't assume that you don't qualify. Or that you do. Either of those guesses can be costly. The Financial Aid Office publishes a guide, "Passing the Bucks," which gives more information about aid. You can get a copy from your high school counselor or from the Financial Aid Office, A129B Murphy Hall, University of California, 405 Hilgard Avenue, Los Angeles, California 90024. Telephone: (213) 825-4531.

A further note: All fees outlined here are subject to change without notice. Payment of registration fees is part of the registration process; you can pay other fees at the Cashier's office in Murphy Hall from 8:30 a.m. to 4 p.m. any weekday.

Fees Assessed Undergraduates

As an undergraduate, you must pay a registration fee of $143 per quarter and a Student Union fee of $4, both payable when registering.

In addition, you are assessed on Education Fee of $100 per quarter and an Associated Students Fee of $6 per quarter.

Students who have not been residents of California for more than one year immediately prior to the residence determination date for each term in which they propose to attend the University are charged, along with other fees, a nonresident tuition fee of $800 for the quarter. The residence determination date is the day instruction begins at the last of the University of California campuses to open for the quarter. Please see the section entitled "About California Residence—Non-Resident Fees" below.

The Registration Fee covers certain expenses of students for counseling service, for athletic and gymnasium facilities and equipment, for lockers** and washroom, for registration and graduation, for such consultation, medical advice, and hospital care or dispensary treatment as can be furnished on the campus by the Student Health Service, and for all laboratory and course fees. Membership in the Associated Students is covered by the Associated Student fees. No part of these fees is remitted to those students who may not desire to make use of any or all of these privileges. If you withdraw from the University within the first five weeks of the quarter, a part of these fees will be refunded. Any refund for a withdrawal will be based on the date the completed notice for withdrawal is actually submitted. No claim for refund will be considered unless presented within the fiscal year to which the claim is applicable.

**Lockers are issued, as long as they are available, to registered students who have purchased standard locks. Locks are sold by the Campus Activities Service Office, 130 Royce Hall, for $1.25 each, and may be used as long as desired or may be transferred by the purchaser to another student.

Other Fees

Following is a list of what might be called "Miscellaneous Fees" charged undergraduate students at UCLA.

Application fee, $25. This nonrefundable fee is charged every undergraduate applicant for admission, readmission, or intercampus transfer to the University.

Acceptance of admission fee, $50. For undergraduates only. The fee is non-refundable, but is applied toward the University Registration Fee.

Returned check collection, $5.

Late registration, $25. When permitted on or after the first day of instruction.

Duplicate registration and/or other cards in registration packet, $3 each order.

Change in Official Study List after the tenth day of instruction, $3 each petition, when dropping, changing grading basis, or adding a course within published period.

Late filing of study list (Study List Card), $10, when permitted.

Removal of grade "E" or "I", $5 each petition.

Late filing of Degree Candidate Card for the bachelor's degree,$3.

Late payment of fees, $10 (after a published deadline).

Credit by Examination, $5 per petition.

Duplicate diploma, $23.50. Replacement cost upon presentation of evidence original is lost or destroyed.

Transcript of Record, $2 for the first copy and $1 for each additional copy ordered at the same time.

Late return of athletic supplies,** $1 for each 24 hours until full purchase price of article is reached.
Failure to empty locker within specified period, $5.

"Third Party" Fee Payment

The University assumes no contractual or other obligation to any third party who pays any University fees on behalf of a student, unless the University has expressly agreed thereto in writing. In this regard, no request for a refund of fees by such third party will be honored, and if the student withdraws from the University with a fee refund due, such refund will be paid to the student.

**Supplies or equipment not returned before the close of the fiscal year must be paid for in full; return after that date is not permitted.

Refund of Fees

† The Schedule of Refunds listed below refers to Calendar days, beginning with the first day of instruction (Day 1). Percentages listed (days 1-35) should be applied respectively to each Tuition, Educational Fee, University Registration Fee, and other student fees. The effective date for determining a refund is the date you file your official notice of withdrawal with the University, and it is presumed that no University services will be provided to you after that date.

No claim for refund will be considered unless presented within the fiscal year to which the claim is applicable.

New Undergraduate Students

Prior to Day 1. Registration Fee you have paid is refunded except for the $50 Acceptance of Admission Fee, and other fees paid are refunded in full.

Day 1 and after. The $50 Acceptance of Admission Fee is withheld from the Registration Fee, and the Schedule of Refunds (see below) is applied to the balance of fees assessed.

All Continuing and Readmitted Undergraduate Students

There is a service charge of $10 for cancellation of registration or withdrawal before the first day of instruction. Beginning with the first day of instruction the Schedule of Refunds (see below) is applied to the total of fees assessed.

Schedule of Refunds

This schedule applies to the procedures described above

1—14 days	15—21 days	22—28 days	29—35 days	36 days and over
80%	60%	40%	20%	0%

*If no credit for courses is received, a full refund of the Registration Fee of the regular session will be granted to all students entering the armed forces prior to the sixth week of the quarter. No refund thereafter.

About California Residence—Non-Resident Fees

Students who have not been residents of California for more than one year immediately prior to the residence determination date for each term in which they propose to attend the University are charged, along with other fees, a nonresident tuition fee of $800 for the quarter. The residence determination date is the day instruction begins at the last of the University of California campuses to open for the quarter.

Definition

In order to be classified as a resident for tuition purposes, an adult student must have established his/her residence in California for more han one year immediately preceding the residence determination date for the term during which he/she proposes to attend the University and relinquished any prior residence. An adult student must couple his/her physical presence within this state for one year with objective evidence that such presence is consistent with his/her intent in making California his/her permanent home and, if these steps are delayed, the one-year durational period will be extended until BOTH presence and intent have been demonstrated for one full year. Indeed, physical presence within the state solely for educational purposes does *not* constitute the establishment of California residence under state law regardless of the length of his/her stay in California.

Relevant indicia which can be relied upon to demonstrate one's intent to make California his/her permanent residence include, but are not limited to, the following: registering and voting in California elections; designating California as his/her permanent address on all school and employment records, including military records if one is in the military service; obtaining a California driver's license or California Identification Card, if a non-driver; obtaining California vehicle registration; paying California income taxes as a resident, including income earned outside this state; establishing an abode where one's permanent belongings are kept within California; licensing for professional practice in California; and the absence of these indicia in other states during any period for which residence in California is asserted. Documentary evidence may be required. No single factor is controlling or decisive. All relevant indicia will be considered in the classification determination.

The student must petition to have his or her residence classification changed at the Registrar's Office at the campus attended, and documentation of residence (driver's license, voter registration receipt, etc.) may be requested at that time. All changes of status must be initiated prior to the late registration period for the quarter or semester for which the student intends to be reclassified.

Waivers of Non-Resident Tuition

To the extent funds are available, non-resident tuition waivers may be granted to spouses and dependent, unmarried children under age 21 of University faculty members who are qualified for membership in the Academic Senate; to the unmarried, dependent children under age 21 of a full-time University employee whose permanent assignment is outside California and who has been employed by the University for more than one year immediately prior to the opening of the term; and for certain foreign students. Inquiries regarding these waivers normally should be directed to the Residence Deputy in the Registrar's Office.

The residence of the parent with whom an unmarried minor (under age 18) child maintains his or her place of abode is the residence of the unmarried minor child. When the minor lives with neither parent his or her residence is that of the parent with whom he or she maintained his or her last place of abode. The minor may establish his or her residence when both parents are deceased and a legal guardian has not been appointed. The residence of an unmarried minor who has a parent living cannot be changed by his or her own act, by the appointment of a legal guardian, or by relinquishment of a parent's right of control.

A man or woman establishes his or her residence. A woman's residence shall not be derivative from that of her husband, or vice versa.

Exceptions

1. A student who is an adult alien is entitled to resident classification if the student has been lawfully admitted to the United States for permanent residence in accordance with all applicable provisions of the laws of the United States and has thereafter established and maintained residence in California for more than one year immediately prior to the residence determination date.

A student who is an adult alien shall be entitled to resident classification if he or she is a refugee who has been granted parolee, conditional entrant or indefinite voluntary departure status in accordance with all applicable laws of the United States; provided that he has lived in the state for one year immediately prior to the residence determination date. (Effective until June 30, 1980.)

2. A student who is a minor alien shall be entitled to resident classification if the student and the parent from whom residence is derived have been lawfully admitted to the United States for permanent residence, provided that the parent has had residence in California for more than one year after acquiring a permanent resident visa prior to the residence determination date for the term.

A student who is a minor alien may be entitled to resident classification if he or she is a refugee who has been granted parolee, conditional entrant or indefinite voluntary departure status in accordance with all applicable laws of the United States; provided that he has lived in this state for one year immediately prior to the residence determination date. (Effective until June 30, 1980.)

3. A student who remains in this state after his or her parent, who was theretofore domiciled in California for at least one year prior to leaving and has, during the student's minority and within one year immediately prior to the residence determination date, established residence elsewhere, shall be entitled to resident classification until the student has attained the age of majority and has resided in the state the minimum time necessary to become a resident so long as, once enrolled, he or she maintains continuous attendance at an institution.

4. Nonresident students who are minors or 18 years of age and can evidence that they have been totally self-supporting through employment and actually present within California for the entire year immediately prior to the residence determination date and have evidenced the intent to make California their permanent home may be eligible for resident status.

5. A student shall be entitled to resident classification if immediately prior to the residence determination date he or she has lived with and been under the continuous direct care and control of any adult or adults other than a parent for not less than two years, provided that the adult or adults having such control have been California residents during the year immediately prior to the residence determination date. This exception continues until the student has attained the age of majority and has resided in the state the minimum time necessary to become a resident student, so long as continuous attendance is maintained at an institution.

6. Exemption from payment of the nonresident tuition fee is available to the natural or adopted child, stepchild or spouse who is a dependent of a member of the United States military stationed in California on active duty. Such resident classification may be maintained until the student has resided in California the minimum time necessary to become a resident. If a student is enrolled in an institution and the member of the military is transferred on military orders to a place outside the United States immediately after having been on active duty in California, the student is entitled to retain resident classification under conditions set forth above.

7. A student who is a member of the United States military stationed in California on active duty, except a member of the military assigned for educational purposes to a state-supported institution of higher education, shall be entitled to resident classification until he or she has resided in the state the minimum time necessary to become a student.

8. Children of deceased public law enforcement or fire suppression employees, who were California residents and who were killed in the course of law enforcement or fire suppression duties, may be entitled to resident status.

Other Requirements

New and returning students are required to complete a Statement of Legal Residence before registration materials can be produced. Please provide full information on the statement of Legal Residence; aliens with Permanent Residence cards must present proof of possession of the card. The student's status is determined by the Residence Deputy who is located in the Registrar's Office.

You are cautioned that this summation is not a complete explanation of the law regarding residence. You should also note that changes may have been made in the rate of nonresident tuition and the residence requirements between the time this catalog statement is published and the relevant residence determination date. Regulations have been adopted by The Regents, a copy of which is available for inspection in the Registrar's Office of the campus.

All students classified incorrectly as residents are subject to reclassification and to payment of all nonresident fees not paid. If incorrect classification results from false or concealed facts by the student, the student also is subject to University discipline. Resident students who become nonresidents must immediately notify the Residence Deputy.

Appeals

Any student, following a final decision on residence classification by the Residence Deputy, may make written appeal to the Attorney in Residence Matters at the above address within 120 days after notification of the final decision by the Residence Deputy.

For More Information

If you have a question about your status as a California resident in connection with tuition, write to the Attorney in Residence Matters, 590 University Hall, 2200 University Avenue, Berkeley, California 94720, or contact the UCLA Residence Deputy, 1134 Murphy Hall; telephone hours 10 a.m. to noon or 1 to 3 p.m.; 825-3447. Please keep in mind that it is University policy that no other University personnel are authorized to give you information on the definitions of California residence.

Reduced Programs

If you meet the standards described here, you may be eligible for a fee reduction, as indicated.

Fee assessment for the cases discussed below is based on the total units enrolled as of the 15th day of classes.

Non-Residents. The non-resident tuition fee is $800 per quarter. An undergraduate student with college/school approval for enrollment in less than 12 units, the non-resident tuition fee is $267.00 per course ($67.00 per unit). File a "Request for Fee Reduction" with academic dean's office for the applicable quarter. Refunds for courses dropped from the Official Study List are made according to the Schedule of Refunds discussed later in this section. For the purpose of determining reduced university registration fee charges and refunds, where applicable, partial dollar amounts greater than 50¢ are rounded to the next higher dollar amount. Amounts below 50¢ are dropped.

Residents. Certain qualified undergraduate students, when properly approved by the dean of their college/school for enrollment in less than 9 units, may be eligible for a $50 reduction in their Educational Fee. The "Request for Fee Reduction" must be filed by the tenth day of instruction. Except for those qualified and approved part-time students, there is no reduction in the Registration, Educational, Student Union or ASUCLA fees.

Estimated Budgets

The estimated budget presented here was put together based on expense diaries maintained for us by students, the Consumer Price Index, and surveys of local costs for books, rent, transportation, food, and clothing; your usual school-related expenses. It is designed to serve as a guide only.

Please note that financial aid awards are based on "need," which is defined as the difference between allowable school-related expenses (budget) and the contribution expected from you and your family. Budgets do vary, depending on circumstances.

The budget below was estimated for a single student living in a shared room in a UCLA residence hall, co-op, fraternity, sorority, or the YWCA.

UCLA Budget

UCLA Residence Hall Budget*	
Registration Fee	$429.00
Educational Fee	300.00
Student Union Fee	12.00
ASUCLA Membership Fee	18.00
Graduate Student's Association Membership Fee	
Books and Supplies	279.00
Residence Hall Room and Board (19 meal plan)	1,645.00
Additional expense of holiday recesses and extra meals	405.00
Personal (clothing, cleaning, medical insurance, recreation, etc.)	675.00
Local Bus Transportation	126.00
Total Budget for California Resident	$3,981.00
Nonresident Tuition	2,400.00
Total Budget for Nonresident of California	$6,381.00

*You should estimate that living off campus will increase this budget by approximately $600.00. All fees remain subject to change. Alternatives to Residence Hall living are talked about in the "housing" section of this Catalog.

Financial Aid Programs

An underlying principle in the determination of financial need is that students and parents have an obligation to help finance the students' education. Expected student and parental contributions are determined from information supplied by you in the Student Aid Application for California (SAAC). UCLA uses a nationally-approved, nonprofit system of need-analysis to determine what amount your parents are expected to contribute towards your education. If you are an independent student, your financial circumstances are analyzed rather than those of your parents.

Student Financial Independence

The desire of you or your parents to claim financial independence for you does not necessarily release your parents from their responsibility to provide you with financial assistance to meet your college expenses.

The Financial Aid Office is required to use two distinct definitions of independence to determine whether you are financially dependent on your parents.

California Definition

To qualify as independent for State and University grant aid in 1981-82, you must meet **one** of the following criteria:

1) You have been determined financially independent by an educational institution prior to June 30, 1977, **or**

2) You have not lived with either parent for six consecutive weeks or received more than $750 from your parents in any of the last three tax years—1978, 1979, 1980—and you have not been claimed as an income-tax deduction by anyone except yourself or your spouse during that period, **or**

3) You have been a ward of the court, **or**

4) You are an orphan, not claimed as a tax exemption this year except by yourself or your spouse, **or**

5) You have been part of an extremely adverse home situation, documented by responsible community personnel, and without family assistance for the last full year.

Federal Definition

To qualify as independent for Federally-funded aid programs, including grants, in 1981-82, you must meet **all** of these criteria:

1) You may not be claimed as a tax deduction by your parents for the calendar years 1980, 1981, and 1982, **and**

2) You may not live with your parents more than six consecutive weeks during calendar year 1980, 1981, and 1982, **and**

3) You may not receive more than $750 per year assistance from parents in 1980, 1981, and 1982.

As an independent student, you must also demonstrate that you have been self-supporting during the calendar year prior to the academic year for which you are accepting aid.

Aid Available from Agencies

Various financial-aid programs administered or coordinated by the Financial Aid Office are outlined below. You may be eligible for several types of financial aid and your financial-aid "package" usually honors your preference. All California-funded programs are subject to legislative and administrative change.

Scholarships for Undergraduates

Scholarships are categorized as either need- or non-need-based. A *need-based* scholarship is awarded to outstanding students with financial need. *Non-need-based* (honorary) scholarships are awarded on merit alone and normally carry only a nominal monetary award. No financial information is required of students who apply for honorary scholarships. Scholarship awards range from a $100 honorarium to the amount of the applicant's financial need.

All UCLA scholarship awards are made on a competitive basis. Consideration is given to academic excellence, achievement, and scholastic promise. Scholarships are awarded to entering and continuing undergraduates. The terms and amounts of the awards vary. Students are expected to maintain academic excellence in course work. Eligibility for a scholarship is determined by the University Committee on Undergraduate Student Support, Honors and Prizes. Although most scholarships are open to all undergraduate applicants, some are restricted by their donors to students who meet prescribed criteria. Students will be considered for all scholarships for which they are eligible. Awards are based on grade-point average and financial need. Read the scholarship instructions sent to all undergraduate financial-aid applicants for grade-point average requirements and special eligibility requirements.

Regents' Scholarships

Unlike other University scholarships, Regents' Scholarships are awarded for four years to students entering from high school, and for two years to continuing students and those transferring from another university or college who will have completed their sophomore year by the end of Spring Quarter. Students who have achieved an outstanding academic record and show a high degree of promise are eligible to apply for Regents' Scholarships. Financial need is not a criterion for this award but students who wish to be considered for this stipend must file financial information each year. Regents' Scholars receive an honorarium of $100 regardless of need. If you are eligible for financial assistance, you may receive a stipend to cover the difference between your resources and the cost of your education at UCLA.

Chancellor's Scholarships

The Chancellor has establised this honorary scholarship, wth a nominal honorarium, to recognize superior achievement among UCLA's entering freshmen.

Alumni Scholarships

Alumni Scholarships are limited to California residents who will be *entering freshmen in the Fall Quarter.* No financial need is involved and no financial information is required to apply for most Alumni Scholarships. The Bunche Scholarship, named in honor of the famed Nobel Peace Prize-laureate and UCLA alumnus, is awarded with consideration given to the awardee's financial status and ethnic background. Academic promise is required of all Alumni Scholarship winners.

Prizes

The generosity of alumni and friends of the University provides for competitive prizes and awards in several fields. Selections are made by committees in appropriate academic departments.

Grants

Grants are gifts that do not have to be repaid and are based solely on need. Whenever guidelines and funds permit, your financial-aid 'package' includes a grant.

Basic Educational Opportunity Grant ("Basic Grant")

Undergraduate students who are U.S. citizens, permanent residents, or refugees are eligible to apply for the Federal Basic Educational Opportunity Grant. The award amounts for 1980-81 range from $200 to $1,800. If you apply for UCLA "need-based" financial aid, the Student Aid Application for California (SAAC) also serves as your Basic Grant application. The University of California requires that all eligible undergraduates apply for a Basic Grant.

California Student Aid Commission Cal Grants A and B

Undergraduate California residents who have not completed more than six semesters or nine quarters of college work prior to September, 1980, are eligible to apply for a Cal Grant award. The Student Aid Application for California (SAAC) and Cal Grant Supplements are the official applications for these programs. You can get them from the UCLA Financial Aid Office, A129B, Murphy Hall (phone: 825-4531); college financial-aid offices; high-school counselors; or the California Student Aid Commission, 1410 5th Street, Sacramento, CA 95814. The SAAC and Supplements must be filed in February of 1981.

"Cal Grant A" awards range from $300 to $700, are applied toward education and registration fees, and are based on need and academic achievement. They are renewable each year.

"Cal Grant B" awards range from $300 to $1,800, are intended to assist low-income families, and are renewable annually. The State sends renewal applications to continuing Cal Grant recipients.

Grants-in-Aid

Grants-in-Aid provide eligible students with financial assistance from University funds. Awards range from $100 to $4480.

Supplemental Educational Opportunity Grants (SEOG)

These awards are Federally-funded and are granted only to undergraduate students with exceptional financial need. Grants range from $200 to $1,500 per academic year, but can be no more than one-half the total assistance awarded and must be matched dollar for dollar with other aid.

Education Fee Grants

To qualify for this grant you must demonstrate need and be a California resident and an undergraduate in your first year at the University. The maximum education fee grant is $100 per quarter for your first three consecutive quarters of attendance. This grant is awarded to pay your Education Fee (if it has not been paid by another fee-paying agency).

Work-Study Programs

Work-study is a need-based "award" that allows you to work a maximum of 20 hours a week while attending school and 40 hours a week during vacation periods. An academic-year's work-study award may range from $600 to $4500. Your gross earnings *may not* exceed the amount awarded to you. You can obtain more information from the Financial Aid Work-Study Office, A230 Murphy Hall.

College Work-Study (Federal)

Under College Work-Study, a portion of your hourly wage is paid by the Federal government; your employer contributes the balance. Whenever possible, work is related to your educational objectives. Hourly pay-rates comply with minimum wage laws and vary with the nature of your work, your experience, and your capabilities. Employment may be on- or off-campus. To be eligible you must be a citizen, permanent resident of the U.S., or a refugee.

President's Work-Study (University of California)

This program is administered in the same manner as College Work-Study, except that funding is provided by the Regents of the University and the employer, and you are limited to on-campus jobs. All students are eligible to apply for President's Work-Study awards.

Guaranteed Student Loans

Federal and California Guaranteed Student Loans are long-term loans made by banks, savings-and-loan associations, and credit unions.

These loans are available to graduate and undergraduate students who are citizens, permanent residents of the U.S., or refugees, and who are enrolled in at least a half-time program. Applications are processed by the Financial Aid Office and submitted to a lending institution by the student. You should check with various lending institutions to determine their particular loan policies.

You are required to submit a special application for a Guaranteed Student Loan. You may obtain the GSL application from the Financial Aid GSL Office, A230 Murphy Hall.

Repayment of the Guaranteed Student Loan begins between 9 and 12 months after completion of, or withdrawal from, school. Eligible students receive a Federal or State interest subsidy: the loan is interest-free during the time you are a student and for 9 months thereafter. You have up to 10 years to repay the loan at an interest rate of 7% per year.

Minimum repayment is $360 a year. Repayment is waived up to three years while you are serving in the armed forces, Peace Corps, or VISTA, or during any period of full-time study. Undergraduate students may borrow a total of $7,500, and graduate students $15,000 (including any amount borrowed as an undergraduate). It takes approximately eight to ten weeks to process a Guaranteed Student Loan.

Regulations of the Guaranteed Student Loan Program require that student borrowers be notified of (1) their institution's fee refund policy and (2) the percentage of its students who find employment after obtaining a degree. The University of California's refund procedures and schedule will be found under "Refunds" earlier in this section. Salary and employment information for the University of California fits the following pattern:

Field of Study	Degree Level of Graduates: Bachelor's	Master's	Doctorate	Probable or Definite Job Commitment
	Average Monthly Salary			
Engineering	$1261-1534	$1404-1710	$1809-2245	87.5
Humanities	587-1155	652-1364		79.6
Life Science	600-1472			76.6
Management		1224-1816		88.6
Physical Science	952-1526		1532-2276	85.2
Social Science	641-1145	806-1398		79.2
Medical			1112	100.0
Dental[2]			1677	87.7

[1]Source: (Except for Medical and Dental—see Footnote 2). A 1977 national survey of a representative group of colleges conducted by the College Placement Council, representing the 80 percent range of offers throughout the country. It should be noted that a wide variation in starting salaries exists within each discipline based on job location, type of employer, personal qualifications of the individual, and employment conditions at the time of job entry.

[2]Source: *The Job Market for UCLA's 1977 Graduates.* Percentages are based only upon those students who planned to work immediately after graduation. Medical and Dental salaries are shown as means, rather than ranges.

Aid Available from UCLA

Loans

Education Fee Loan

Students who are *residents* of the State of California qualify for a deferral-loan of the Educational Fee. Educational Fee loans may be awarded up to $300 per year for undergraduates and up to $360 for graduates. Every continuing resident student who is eligible for financial aid and whose fees are not paid by an outside agency will be offered an Educational Fee Loan. Repayment, including interest of 3 percent per year, begins nine months after you terminate at least half-time enrollment. The repayment period may not exceed ten years. Minimum repayment is $30 plus interest per calendar quarter. Interest will not accrue and payments need not be made for a maximum of four years while you are serving in the armed forces, Peace Corps, or VISTA.

Regents' and University Loans

These funds are provided by the Regents of the University, by private individuals, and by outside agencies to full-time graduate and undergraduate students. Eligible students may receive Regents' Loans up to $1,200 per academic year. University loans may be for larger amounts. Regardless of your age, you are required to obtain one co-signer for loans up to $1,000 and two co-signers for loans over $1,000. These loans are repayable over ten years in quarterly payments that begin nine months after you terminate at least half-time enrollment. Interest is at the rate of 3 percent per annum, and the minimum quarterly repayment is $90.

National Direct Student Loans (NDSL)

These loans are available to all students, undergraduate and graduate, who are *citizens, permanent residents, or refugees* and who are carrying at least one-half the full-time academic workload. Undergraduate students may borrow up to $2,500 during their first two years. Undergraduate students may not borrow more than $5,000 in all. Graduate or professional students may borrow up to $10,000, including all amounts borrowed as an undergraduate. Students under 18 years of age are required to obtain a co-signer. There is a nine-month grace period after termination of at least half-time enrollment during which no interest accrues and no payment is due. Repayment begins twelve months after you terminate at least half-time study. Minimum repayment is $90 per quarter including interest at 3 percent per annum. The maximum repayment period is ten years. Loans made subsequent to June 30, 1972, include principal-and-interest-cancellation provisions up to 100 percent of their total debt for those who serve as full-time teachers of low-income or handicapped students in certain non-profit elementary or secondary schools, as defined by Federal guidelines. Staff members in the Headstart Program may also qualify for this cancellation benefit, depending upon their salary scale. Members of the Armed Forces may qualify for up to 50 percent cancellation at the rate of 12½ percent interest per annum for service in an area of hostilities. Payments are deferred and interest does not accrue during a period in which you are attending school at least half-time or for a maximum of three years while you are a member of the armed forces, the Peace Corps, or VISTA.

Nursing Loans

To be eligible for a Nursing Loan, you must be a citizen, permanent resident, or refugee and a student in the School of Nursing. Up to $2,500 is available per academic year. For more information, contact the School of Nursing financial-aid counselor.

Emergency Loans

You *need not be* a financial-aid recipient to apply for emergency loans. Up to $75 may be borrowed for immediate emergency needs. Emergency loans are repayable within four weeks from the day they are issued. Applications are available in A227 Murphy Hall at the Student Loan Services Office. You must be a UCLA student in good standing, with a satisfactory loan-repayment record, to qualify for emergency-loan privileges.

Student Loan Obligations

If you receive a loan offer as part of your financial-aid award, you should carefully evaluate your total educational indebtedness and your ability to repay your loans. All UCLA-administered loan funds are revolving funds: money repaid by former borrowers is immediately reloaned to current students. The University will make every effort to assist you during the repayment of your obligation, but University services, including registration and the release of official transcripts, will be withheld if your loan becomes delinquent. Seriously delinquent accounts are referred to a professional collection agency for action (which may include litigation). You should be aware of your obligations when you accept a student loan.

All of this is explained in a special "Loan Information Interview" conducted by Student Loan Services at the beginning of each quarter, when loans are awarded.

The Exit Interview for Loan Recipients

All loan recipients are required to come to the Student Loan Services Office (A227 Murphy Hall) for a Loan Exit Interview before leaving UCLA for any reason. The purpose of the Exit Interview is to help you understand your loan agreement and to explain to you your rights and your responsibilities as a loan receipient. Failure to participate in an Exit Interview with the Student Loan Services Office will result in a hold on your academic records and registration materials.

Please call the Student Loan Services Office (phone: 825-9864) for an Exit-Interview appointment.

Application Procedures for Financial Aid

If you are a prospective undergraduate student, you will find descriptive material and instructions for requesting financial aid information in the 1981-82 "Undergraduate Admissions and Financial Aid Packet." Continuing students may obtain "UCLA Scholarship and Financial-Aid Application Packets" at the Financial Aid Office, A128 Murphy Hall, in late November or December of each year.

Continuing students from foreign countries may obtain a 1981-82 "Financial Aid Application for International Students" at the Office of International Students and Scholars, 297 Dodd Hall, No financial aid can be awarded to foreign students in their first year of attendance at UCLA.

The 1981-82 deadline date for all undergraduate and continuing graduate financial-aid applications will be in February 1981. The deadline for entering graduates will be September 1, 1981. These dates are vitally important to you because applications accepted after the deadline date will be classified as LATE. Late applications for financial aid will be considered ONLY after all complete on-time applications have been processed and ONLY if funds are still available. The deadline will be announced in the *Daily Bruin* and other campus media.

ROTC Financial Assistance

Funds for students in the Reserve Officers Training Corps *are not administered* by the Financial Aid Office; the subsistence allowances and scholarships available are briefly described below:

Air Force ROTC

Four-year scholarships are available to high school students, and two-year and three-year scholarships to college students. Scholarships include full tuition, books, and fees plus $100 a month. All cadets receive $100 per month during the last two years of the program and one-half the pay of a second lieutenant during the four-week summer training period or the pay of an airman basic during the six-week training period. Call 825-1742, or contact the Department of Aerospace Studies, 251 Dodd Hall, UCLA, 405 Hilgard Avenue, Los Angeles, California 90024 for full information.

Army ROTC

Cadets receive $100 per month subsistence allowance during the last two years of the ROTC program (Advanced Course). There are also four-year Army ROTC Scholarships which provide financial assistance to outstanding students. (Full tuition, books and fees plus $100 per month for the four years.) During six-week summer training period at the end of the junior year cadets receive one-half the pay of a second lieutenant. Also available are 3-year, 2-year, and 1-year scholarships for students enrolled in Army ROTC. Call 825-7381, or write the Department of Military Sciences, Men's Gym, Room 127, UCLA, Los Angeles, California 90024 for full information.

Navy ROTC

College Program students receive $100 per month subsistence allowance during the last two years of NROTC. Excellent opportunities exist for qualified College Program students to receive full scholarships (tuition, books, and $100 per month) after spending at least two quarters in the NROTC Program. Call 825-9075 or write the Commanding Officer, Department of Naval Science, UCLA, 405 Hilgard Avenue, Los Angeles, California 90024 for full information.

Employment Opportunities

There is a fairly wide spectrum of choice and challenge for part-time employment at UCLA.

On campus, ASUCLA has regular job openings in several areas (see the "student services" section of this book) while the Placement and Career Planning Center (located just south of Powell Library) lists jobs in a variety of categories.

Room and board in exchange for work situations are also kept on file at the Center, which is described more completely in the "student services" section of this book.

It is a good idea to also check the *Daily Bruin* and local newspapers for advertisements of potentially appealing part-time opportunities.

housing at UCLA

Where you live while attending UCLA can play an important role in your total college experience. Housing options available to students include: UCLA Residence Halls, UCLA Married Student Apartments, cooperatives, fraternities, sororities, University-owned apartments and off-campus rentals. **Student demand for available on-campus and near-campus housing far exceeds the available supply.** If you plan to live off campus, it is advised that you arrive early to make your housing arrangements for the coming academic year. Some students even pay rent year around (and try to sub-let during the summer months to minimize costs) in order to assure accommodations for the academic year.

Office of Residential Life

The Office of Residential Life (Room 74, Dodd Hall; telephone 825-3401) provides professional and student staff to assist residents in the Residence Halls and in Married Student Housing with counseling, programming, and advising needs. Primary attention is given to creating an environment which promotes positive relationships, provides maximum support to students in support of educational goals, and offers a wide variety of opportunity for personal growth.

Eligibility to Use Services

You must present a current quarter's Registration Card or a letter of acceptance and a valid photo identification each time you use the services.

University Owned Apartments

UCLA maintains 117 off-campus apartments for single students located within walking distance to the campus. Contact the UCLA Housing Office for availability and further information.

Off-Campus Listings

Up-to-date listings are maintained of apartments, houses, rooms, room and board accommodations, part-time work in exchange for room and board, and "share" situations (for people looking for roommates). These listings are available to students who come in person to the UCLA Housing Office. **Listings cannot be mailed** as they change daily. The office is open 8:00 a.m. to 4:30 p.m., Monday through Friday.

The University does not inspect rental accommodations and does not make rental or other arrangements on behalf of students. Student transactions must be made individually and directly with landlords. You are advised to have a clear understanding, preferably in writing, of the terms and conditions of tenancy. The UCLA Housing Office offers a handbook on becoming a tenant, model lease and rental agreements, other appropriate documents, and advice on landlord-tenant problems.

Rental rates are relatively expensive in and around the Westwood area. The farther you get from campus, the less expensive the rental accommodations. Cost balances convenience. Average rental rates listed with the UCLA Housing Office for 1979-80 varied from $150 up per month for rooms in private homes, from $200 up per month for furnished bachelors and singles, from $425 up per month for one-bedroom apartments, and from $500 up per month for two-bedroom apartments. Rental rates depend upon the furnishings and location of the lodgings. House listings are scarce and rental prices for houses are appreciably higher. For most rentals utilities are extra. A few homes offered room and board in exchange for work.

Temporary Housing

Motels are located from one to five miles from campus with varying rates and accommodations. It is sometimes advisable for students to accept these accommodations temporarily until more permanent lodgings can be located. Motel listings are available from the UCLA Housing Office.

Off-Campus Living Groups

You may find accommodations with a group living experience within walking distance to campus in privately operated cooperatives, in fraternities and in sororities.

Cooperatives

There are three privately-owned, nonprofit, member-controlled student living groups located adjacent to campus. Each student is required to work three to four hours per week as part payment for room and board. The Cooperative Housing Association is for men and women, the YWCA and Stevens House are for women only. For 1980-1981 room and board rates vary from $320-$500 per quarter. Cooperatives normally have long waiting lists, so **early application is important!** To obtain applications and information, write directly to each cooperative. A listing of cooperatives is available from the UCLA Housing Office.

Fraternities and Sororities

Most fraternities and sororities own or lease homes near the campus and provide lodging and meals for a number of their members. However, housing is not guaranteed with membership as each group has more members than live-in spaces. If you are interested in affiliating with a fraternity or sorority, contact either the UCLA Interfraternity Council (for fraternities), or the Panhellenic Council (for sororities), care of the Dean of Students Office, 2224 Murphy Hall, 405 Hilgard Avenue, Los Angeles, CA, 90024, telephone 825-3871.

University Residence Halls

Four coed residence halls accommodate undergraduate students. Graduate students (21 to 29 years of age) are accommodated in a coed graduate hall.

Rooms (shared by two students) are furnished with studio beds, desks, draperies and pillows. Students must furnish blankets, bed linens, bedspreads and towels.

The residence hall rate (exclusive of recess) is approximately $1850 for the academic year (Fall, Winter and Spring quarters), plus membership fee of $15 in the residence hall student association. For portions of the year, the rate is prorated. Contracts are issued from the date occupancy is authorized through the end of Spring Quarter, 1981.

Three cafeteria-style meals are served daily with the exception of Saturdays, Sundays and University holidays when two meals are served. Special diets are not available. "Room only" contracts are not available.

Application

A Housing Information booklet, which includes an application for Residence Halls, is mailed to all undergraduate students who apply to the University. Graduate students receive this same booklet upon return of the "Request for Housing Information" Card enclosed with their packet from the Graduate Admissions Office. Further information pertaining to the application process is contained in the booklet.

Assignment

Residence hall assignments are mailed mid-April for the Academic Year beginning in the fall, mid-November for Winter Quarter and mid-February for Spring Quarter.

University Married Student Apartments

The University maintains 643 unfurnished one-, two-, and three-bedroom apartments for married students and single student parents. These units are located on Sawtelle and Sepulveda Boulevards, approximately five miles from campus.

Rental rates for 1979-1980 will range from approximately $165-$235 per month. Utilities are not included in the rental rate.

Application

Due to the limited number of facilities, applicants can anticipate an average wait of 18-24 months for any apartment. **Early application is important!** An application is contained in the Housing Information booklet mailed to all undergraduate students who apply to the University. Graduate students receive this same booklet upon return of the "Request for Housing Information" Card contained in the packet from Graduate Admissions.

Assignment

Assignments are made only to the full-time student member of the family and are not transferable to another member of the family. Verification of marriage or birth certificates are required for assignment.

To remain eligible for housing, assigned students must be enrolled in all quarters of the academic year (i.e., fall, winter and spring quarters). Only the student and his/her immediate family may live in the apartment. Extension students are not eligible.

Meals

Students can obtain moderately priced meals at the University Residence Halls on an individual basis or by contracting for meals on a quarterly non-resident meal plan. For further information contact the Residence Halls Cashier's Office, Sproul Hall, 350 DeNeve Drive, Los Angeles, CA, 90024, telephone 825-6131.

In addition, meals may be purchased on an individual basis from the various Associated Students food service facilities and from full-service vending areas located on campus. These are listed in the "student services" section of this book.

transportation at UCLA

There are several alternatives for personal transportation to and from the campus. Alternatives such as carpooling, public transportation and bicycling are described in the brochure entitled "How To Get To UCLA Without Using Your Car," distributed by the Transportation Services Administration. This brochure is available at the Campus Parking Service, and includes bus route maps and a UCLA Ridesharing application.

UCLA Parking Permits

A limited number of parking permits are sold to students. Students who wish to obtain parking permits may request a UCLA Student Parking Request from the Campus Parking Service. Parking assignments will be based on the information on the completed requests. Not all students who request parking permits receive parking assignments. Students with physical disabilities which preclude walking long distances may apply for parking permits through Student Health Service. Only those who have parking permits are assured that they may bring automobiles to campus. Deadlines for returning a completed UCLA Student Parking Request to the Campus Parking Service will be established for each quarter and are listed in each quarter's Schedule of Classes. Parking Permits are not transferable and may be purchased only from the Campus Parking Service.

Students may obtain UCLA Student Parking Requests and instructions for filing, including current deadlines, either by writing to Campus Parking Service or by calling (213) 825-9871.

Off-Campus Parking

During the past few years Campus Parking Service has made arrangements with the Veterans Administration to provide free parking to UCLA staff and students. For information please call the Parking Service at 825-9871.

Need to know more?

"Finders Keepers"—a handbook to UCLA, with sections on transporation. Reference copies are available through all department, college, school and ASK counselors at the College Library and University Research Library reference desks and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

student services at UCLA

This section works in concert with two other parts of the Catalog: "academics: resources to help you" and "recreation and participation". Together, this trio of services sections describes the range and variety of programs to help you.

Academic Advancement Program

The Academic Advancement Program (AAP), formerly EOP, is the primary student affirmative action program at UCLA. AAP is designed to provide academic support to students from ethnic and low income communities who have been historically underrepresented at UCLA. The program seeks to assist these students in achieving their goal of graduation from the University of California. Applicants must be citizens or permanent residents of the United States and residents of the State of California. This requirement is waived for Native Americans who can document their tribal affiliation. Prospective applicants must meet regular university requirements for undergraduate admission as freshmen or in Advanced Standing. A limited number of exceptions are made each year. Special action admission consideration is given on an individual basis. AAP offers orientation to the campus service; peer counseling for all entering students; extensive personal counseling services; individual and group tutorial programs; career and Graduate/Professional school advisement; career days for all professional fields; seminars and preparation sessions for all graduate school entrance examinations; and help in determining financial aid eligibility for state and federal funds.

Campus Programs and Activities Office

The Campus Programs and Activities Office, 161 Kerckhoff Hall, telephone 825-7041, services all sectors of the campus community through program advisement, planning, and development; offering assistance to campus groups, including the graduate and undergraduate student governments, in securing program funding; uniformly interpreting and applying University rules and regulations; providing general information about all campus meetings, programs and activities; registering all campus groups; and providing production and technical advice and assistance in all phases of programming.

Campus Activities Service Office

The Campus Activities Service Office administers and operates most campus facilities, classrooms for non-class usage, and auditoriums. CASO offers technical advice in the public events area to groups holding events on campus. Groups must be registered through the Campus Programs and Activities Office (CPAO, 161 Kerckhoff, *825-7041)* to be eligible to use CASO services. CASO administers the Official and General Purpose Bulletin Boards on campus, as well as the General Assignment Lockers and the sale of UCLA padlocks. Located in room 130, Royce Hall, telephone 825-8981.

Campus Parking Service

Please read the "transportation" section of this book for a discussion of this service.

Central Ticket Office

The Central Ticket Office serves the UCLA community through two locations—the Ticket Office in the James E. West Alumni Center (ground floor) and at the trailer at 650 Westwood Plaza (across from the Police Station).

Tickets for *all* UCLA events are sold at *both* locations. In addition, the following special ticket services are provided at each location:

The James E. West Alumni Center location offers student tickets to athletic events at reduced prices. Tickets to off-campus events are also sold, through both the Ticketron system and the Mutual Ticket Agency. Bus tickets for the RTD and Santa Monica bus systems (discount rides for students), and special student discount tickets for local motion picture theatres are also available.

The 650 Westwood Plaza location offers student tickets for on-campus cultural events at reduced prices, subsidized by the Student Committee for the Arts. For all student tickets, students must present their Registration Card and Photo I.D. Card. There is a limit of 2 tickets per person. Watch the *Daily Bruin* ads for ticket sales dates.

Child Care

Child Care Services, telephone 825-5086, offers two child care programs to University students, staff and faculty as well as a referral file of over 400 child care centers in Los Angeles.

Child Care Center

Part-time and full-time care, depending upon parents' needs, for children two months to six years of age. Fees range from $26/w—$56/w depending on full or part-time care. The Child Care Center is located in Parking Lot 1, behind the Credit Union and the BRI trailers at 10833 Le Conte, telephone 825-5086. For information regarding fees call Child Care Services at 825-5086.

Family Day Care

Homes in the West Los Angeles community which are licensed by Los Angeles County and participate in training and enrichment by the Child Care Services staff. Full and part-time care is available for 2-month-old to after-school-age children. Fees and hours arranged with individual Caregivers. Telephone 825-8474 for more information.

UCLA Parent Toddler Group

Located in the Married Student Housing complex four miles south of campus (3327 S. Sepulveda Blvd., telephone 391-9155 or 398-8739), this is a cooperative pre-school open to all members of the UCLA community: full-time students, faculty and staff.

The program is designed to help toddlers aged 18-months to 3-years develop a sense of independence, self-worth and the ability to relate to other children and to adults outside their own families. Some structured activities which encourage mobility and dexterity are available, but the children are encouraged to make their own choices and decisions.

Tuition is on a sliding scale, according to parental income. Parents participating in this cooperative scheme are required to work at school one morning in every four that their child attends. The Parent Toddler Group operates mornings, Monday through Friday, 9:00 a.m. to 12:00 p.m. The afternoon sessions meets 12:15 p.m. to 4:00 p.m., three days a week.

University Parents Co-operative Nursery School

Located in the Married Student Housing complex four miles south of campus (3327 S. Sepulveda Blvd., telephone 397-2735), offers a warm, supportive educational environment to children of the UCLA community. The nature of the school also provides parents of varied cultural backgrounds the opportunity to gain insights and skills in parenting. Care is provided for children ages 3-6 years. The hours are Monday through Friday, 9:00 a.m. to 12:00 p.m. and 12:00 p.m. to 3:45 p.m. with extended care available 3:45 p.m. to 5:30 p.m.

Computer Services

Registered students can obtain an account free of charge on the DECsystem-10 interactive computer operated by the Office of Academic Computing. Special funds from the Chancellor support this resource designed to give students the opportunity to familiarize themselves with the use of computing equipment as a tool to assist in studies. You may use the computer to do homework, edit term papers, conduct independent research, teach yourself programming, or in connection with specific courses that make use of the computer as a learning aid. Terminals to access the computer are available in the Graduate School of Management, the Mathematical Sciences Building, and in Boelter Hall. Apply in room 4302 MSA from 8 a.m. to 5 p.m. on weekdays.

Cultural and Recreational Affairs

The Office of Cultural and Recreational Affairs (room 600 Kerckhoff Hall; telephone 825-3701) is the center of recreational activities on the campus. These are divided into four general areas:

Intramural Sports Office

118 Men's Gym—825-3267. There are teams formed for just about every sport during every season of the year. There are divisions for men and women, as well as participation on a coed basis. Some sports (i.e., basketball) are divided into size or skill divisions, so anyone who wants to can get involved, at whatever level they choose. You can join a team in your dorm, or in your fraternity or sorority house, or you can form an independent team from among your friends. The office can help you form a team. Playoffs are set up in each sport and in each division to determine the "All-U" champs. The Intramural Sports Office is located in room 118 of the men's gym; telephone 825-3267.

Recreation Services and Facilities Office

Located in room 164 Pauley Pavilion (telephone 825-4548), its purpose is to see that facilities are made available for those persons not interested in organized sports. Non-credit classes are also offered in such areas as dance, tennis, outdoor recreation, swimming, golf, judo, self-defense, gymnastics, etc. Information on both is contained in the brochure "Recreation Release" available at the beginning of each quarter in Kerckhoff Hall 600, Pauley Pavilion 164, Men's Gym, Women's Gym, Recreation Center, the Ackerman Union Information Desk, and/or posted in various places around the campus. Also watch the *Daily Bruin* for class schedules.

University Recreation Association

URA is an association of special interest clubs in the cultural and recreational area. There are over 40 clubs already in existence, and you may form a new one by gathering ten other people with the same interest. The types of clubs existing include water ski, chess, scuba, ski, etc. For a complete list, drop by Kerckhoff Hall 600 or call. To join a club, you may either sign-up in Kerckhoff Hall 600 or simply attend the first meeting of the club (check the *Daily Bruin* Campus Events column).

You can find the URA office in room 600 Kerckhoff Hall; telephone 825-3703.

Sunset Canyon Recreation Center

The "Rec Center" is located next to Hedrick Residence Hall. It is normally open 10 a.m. to 7 p.m. (10 a.m. to 8 p.m. during the summer). Its facilities include an olympic sized and a family swimming pool, volleyball courts, barbeque pits, picnic tables, meeting rooms, and large grassy areas. You need to bring your registration card to get in and you can bring along friends for a nominal charge.

Telephone the "Rec Center" at 825-3671 for more information.

Dean of Students

The Dean of Students Office (room 2224 Murphy Hall; telephone 825-3871) is one of the few generalists left in these days of specialization. Besides the administration of several student services, e.g., legal services, veteran and handicapped students' services, it exists to help students with whatever needs they might have, either directly or by referral.

The direct services offered by the Dean of Students Office include:

Emergency locating of and emergency messages to students; fraternities and sororities; general counseling; "good student" automobile insurance discount verification; honorary societies including Phi Eta Sigma and Alpha Lambda Delta—freshman honor societies, Pi Gamma Mu—social science honor society, Mortar Board—senior honor society; letters of recommendation; Orientation Program; tie-line for business calls to other UC campuses; and assistance in understanding grievance procedures regarding student records, discrimination, and student debts.

The Dean of Students Office also plays a role in the administration of campus discipline. This role is discussed in more detail in the "admission" section of this Catalog.

Financial Aid Office

The Financial Aid Office is located at A129 Murphy Hall. Walk-in counseling hours are 9 a.m. to 5 p.m. Monday through Friday at Counseling Window B. Counselors are also available by appointment 9 a.m. to 4 p.m. Monday through Friday, call (213) 825-4531. Please read the "money" section of this Catalog for a complete look at the services of the Financial Aid Office.

Foreign Students

The Office of International Students and Scholars and the International Student Center provide services and programs specifically for foreign students and post doctoral scholars.

The Office maintains a staff of professional and peer counselors who are uniquely prepared to respond to the questions and concerns of persons from other cultures. These include immigration, employment, and other government regulations; financial aids; interpreting local customs; and personal problems. In addition, the office serves as an advocate for the interests of foreign students, individually and collectively. The office programs focus on facilitating an exchange within the academic setting between foreign and American students.

The Center, located at the south edge of campus, operates with a small professional staff and several hundred volunteers. Its services include English language conversation groups, other language groups, assistance with locating housing, and special assistance for the family members of students and post doctoral scholars. The Center programs focus on student-community relations, and include discussion groups, nationality dinners, international celebrations, tours of the local area, and social activities.

Together the Office and the Center provide a comprehensive orientation program for entering foreign students. Both are committed to providing assistance to foreign students and scholars in their pursuit of the academic objectives for which they came to UCLA, and then to providing the means by which they can share their viewpoints with the American students and community. The Office is in 297 Dodd Hall, telephone 825-1681. The Center is at 1023 Hilgard Avenue, telephone 477-4587.

Learning Skills Center

At the Learning Skills Center you can work in a variety of ways to increase your effectiveness as a learner. You may meet with an experienced counselor in a one-to-one session; you may enroll in small workshops presented by the Center each quarter; or you may use the self-paced Learning Laboratory. Each of these settings offers a unique addition to the classroom and the lecture hall which can enhance your educational process both within the university and beyond.

In the Center you will find resources available for all of your study-related concerns. These include:

Reading:	To increase your reading rate and comprehension.
Study:	To improve your study effectiveness and reduce study-connected anxiety.
Writing:	To overcome trouble spots in your writing process,

	whether you have difficulty getting started, generating ideas, or rewriting in any writing tasks.
Speech:	To develop ease in speaking in group settings Videotape playbacks are available for practicing formal and informal presentations.
Math-Science:	To improve your reading of science texts, with special emphasis on problem-solving and reducing your anxiety in the physical and life sciences.
Exam Preparation	To increase effectiveness in mid-term and final exam preparation and performance. Special workshops on preparing for the LSAT GMAT and GRE exams are offered each quarter.
The Self-Paced Learning Laboratory:	To improve your skills by working during your free hours and at your own pace on a variety of programs with supervision as needed.

The Learning Skills Center is neither a tutorial nor an editorial service.

The Learning Skills Center is located in 77 Dodd Hall, Telephone 824-6145; Monday to Friday, 8 a.m. to 5 p.m.

Office of Experimental Educational Programs

The Office of Experimental Educational Programs (OEEP) serves as a developmental and administrative center for programs and services providing internships, field studies, service-learning, and other learning opportunities that enrich and supplement the instruction offered through the University's academic curriculum. Four program units assist students interested in getting more actively involved in their education.

Academically Affiliated Programs

Information about a variety of programs and courses with field experience components is available through the Special Projects Unit. Call 825-2295 or visit Dodd 50 for more details on UCLA undergraduate field study opportunities. Most of these opportunities are co-sponsored by OEEP and related academic departments and offer academic credit.

Community Service-Learning Center (CS-LC):

The Community Service-Learning Center serves UCLA students by providing or helping to develop individualized learning experiences through service to the Los Angeles Community in two ways:

Community Service Projects: CS-LC is responsible for administering over 40 community service projects involving student volunteers in the Los Angeles area. These projects are student initiated and student run to meet the diverse needs of the community. Students are encouraged to develop new community service projects to meet changing demands and interests.

Individualized Service-Learning Opportunities: Staff at CS-LC can provide skilled guidance to students who are interested in developing individual, innovative learning placements in the community. These opportunities are designed to place students with professionals who have a proven expertise in the area of the student's interest. Each student's academic, personal, and experiential needs are assessed before a placement is made. The first-hand knowledge each student acquires can be applicable to either the public or private sectors of society, though service to needy communities is emphasized.

Interested students should call the Community Service-Learning Center at 825-5969 in room 51 Dodd Hall.

Experiential Programs and Opportunities Center (EXPO):

EXPO serves as an information clearinghouse and placement service for off-campus opportunities and provides students, faculty, and staff with access to learning experiences that supplement the traditional educational format of the lecture hall, laboratory, and library. It offers counseling, information, and programs in the following areas:

- *Internship Programs,* including the UCLA International, Washington, Sacramento, and Los Angeles Internship Programs, the Model United Nations Program, and the Volunteer Income Tax Assistance Program.
- *International Opportunities,* including information on study and travel abroad programs, International Student Identity and Youth Hostel cards, and internships with international agencies in the United States and abroad.
- *National Opportunities,* including information on alternative and summer study, internships, and travel opportunities offered throughout the United States.
- *Local Opportunities,* including information on cultural, recreational, and volunteer opportunities throughout Los Angeles and Southern California.

Ask and you will probably find it at EXPO, Ackerman Union A-213 (825-0831).

Ombudsman

The purpose of the Ombudsman office is to seek to resolve personal grievances of members of the university community emerging from policy, practices, and/or personalities. As an independent agent with investigatory powers, the Ombudsman accepts grievances only after the grievant has tried to resolve the problem through regular channels and when there is evidence that adverse decisions are questionable.

The office is located in Kinsey Hall, Room 274 (phone 825-7627) and is open to all University-related persons; also at times and other places convenient to the aggrieved.

Orientation

The Orientation Program offers extensive academic counseling and educational planning to all new undergraduates entering the University. Working in small groups with peer counselors, students discuss what will be required of them in order to be successful at UCLA, plan their schedules for the upcoming quarter and learn of the educational opportunities open to them. In addition, undergraduates can learn about student services and the University's facilities and activities. Each student receives individual time with a counselor, fulfilling the academic advising recommended for all students (required by some schools/colleges) Orientation sessions provide opportunities for dealing with the common problems in adjusting to university life. Programs for parents are also offered.

For further information about the program (including costs and dates), contact the Orientation Program, located in the Dean of Students Office, 2224 Murphy Hall or phone (213) 825-3626.

You can find information about other programs for new students in the "academics: resources to help you" section of this Catalog.

Placement and Career Planning Center

The Placement and Career Planning Center offers career development and placement services to students of all disciplines and all degree and class levels. It is comprised of three functional divisions: Career Development, Student Employment, and Educational Career Services. Services are located in the Placement and Career Planning Center building and in two satellite locations: 1349 GSM, specializing in Management, and 6417 Boelter Hall, specializing in Engineering and the Physical Sciences.

Career Development

A staff of career counselors is available to assist in career exploration, choice, and the job search. The Career Resources Library furnishes information for planning further education and alternative careers. The Campus Interview Program provides convenient access for students to interview with employers and graduate school representatives. A more diverse array of job opportunities is posted for direct referral to the employer.

Student Employment

A job listing and referral system is provided for currently enrolled students and their spouses who are seeking part-time, temporary, or vacation employment. Career-related opportunities (including paid and non-paid internships) are available either through the listings or through personal search with the assistance of this unit.

Educational Career Services

Specialized information and counseling is available to assist students and alumni seeking positions in universities, colleges, community colleges, and secondary and elementary schools. Current listings of educational job opportunities, internships in educational institutions, and a professional file service are included.

Psychological and Counseling Services

The Psychological and Counseling Services include two separate divisions—The Behavioral Division and The Counseling Division. Both divisions provide professional services focusing upon student development, and are for the voluntary use of any regularly enrolled student.

Behavioral Division

The Behavioral Division (4223 Math Sciences, 825-4207) offers counseling for students who want to increase their effectiveness in handling specific problems encountered in the course of University life. Typical concerns which can be resolved through a self-management learning process include overcoming test-taking anxiety, fear of oral exams or participating in classroom discussions, public speaking anxiety, tension or inexpressiveness in difficult interviews, and procrastination in studying. Other personal problems in which excessive anxiety or inappropriate learned behaviors interfere with performance can also be relieved, such as lessening difficulty in meeting people, learning to express oneself more directly and honestly in interpersonal relationships, and finding ways to increase self-confidence and self-control. Emphasis is placed upon the learning of techniques and abilities to help students implement decisions they have made and more effectively to realize their goals.

The staff is composed of professional psychologists. Both individual and group programs are offered. Students should call or come in to arrange an appointment or to receive further information.

Counseling Division

The Counseling Division (4223 Math Sciences Building, 825-0768) offers individual and group counseling for students who are experiencing any of the number of general concerns, dilemmas, crises or indecisions which are often encountered by students. Difficulties related to the process of making decisions, the clarification of values or long-range personal and career goals, the resolution of conflict in expectations, the handling of intense emotional experiences, and other concerns affecting the personal growth of students are among those to which the Counseling Division frequently responds. Educational and career interest inventories can be taken upon request. Marital and premarital counseling, and counseling related to problems encountered in other forms of relationships is also available. Emphasis is placed on the exploration and clarification of feelings, choices, expectations, and alternatives, and the resolution of indecision or inability to act.

The staff is composed of counseling psychologists and other professionals familiar with the needs and interests of college students. Students should call or come in to arrange an appointment (immediate appointments are possible, if indicated) or to receive further information.

Religious Programs

The University Religious Conference is located at 900 Hilgard Avenue at LeConte. URC membership is held by the Baptist, Catholic, United Church of Christ, Disciple, Episcopal, Jewish, Lutheran, United Methodist and United Presbyterian organizations. The URC serves as the headquarters for various campus ministries and programs which are carried out on the campus and within the building. Other facilities of the URC members include the Catholic Center, 840 Hilgard Avenue; Campus Baptist Chapel, 668 Levering; University Lutheran Chapel 10915 Strathmore, and Episcopal Center, 580 Hilgard Avenue.

Other campus related religious facilities include the L.D.S. Institute of Religion, 856 Hilgard Avenue; Christian Science Organization, 500 Hilgard Avenue; the Y.W.C.A. at 574 Hilgard Avenue; Chabad House, 741 Gayley Avenue.

In these facilities are held worship services, religious discussion groups, lectures, Bible classes, social gatherings, luncheons, dinners, social action conferences and other meetings dealing with campus religious life. In addition the URC student religious organizations and others also hold regular meetings and occasional services on campus.

ROTC

In accordance with National Defense Act of 1920, and with the concurrence of the Regents of the University, a unit of the Senior Division Reserve Officers' Training Corps (ROTC) was established on the Los Angeles campus of the University in July, 1920.

Air Force

Air Force ROTC, through its Aerospace Studies offerings, enables students to develop, demonstrate, and apply the knowledge and leadership qualities requisite for an officer's commission in the U.S. Air Force. Students who demonstrate dedication to their assignments, who willingly accept responsibility, who think critically and who have the ability to communicate with clarity and precision will, upon completing the curriculum and graduating from the University, receive an officer's commission. See Aerospace Studies listing in the "courses" section of this catalog for more details.

Army

The purpose of the Army ROTC is to qualify selected male and female students as leaders in their chosen fields, as far as the requirements of the service permit. These fields include: engineering; communications; administration; logistics; personnel management; intelligence; and many others. The ROTC Program qualifies graduates for commissions as officers in the United States Army Reserves, National Guard and Active Army. Distinguished graduates may qualify for a commission in the regular Army.

Options now available include two-, three- and four-year programs leading to an Army commission. Cross-enrollment is available through UCLA Extension from community colleges or other colleges that do not offer Army ROTC. You can check the Military Science Department listing in the "courses" section of this catalog for details of the program.

Navy

By action of the Secretary of the Navy and of the Regents of the University of California in June, 1938, provision was made for the establishment of a unit of the Naval Reserve Officers' Training Corps on the Los Angeles campus of the University.

The primary objective of the Naval Reserve Officers' Training Corps is to provide an education at civil institutions which will qualify selected students of such institutions for appointment as officers in the Regular Navy, Naval Reserve, Marine Corps, and Marine Corps Reserve. Upon successful completion of the four-year program, which includes the receipt of a baccalaureate degree from the University, you may expect to be commissioned and to be ordered to active duty in ships, submarines or aircraft of the Navy, with field units of the Marine Corps, or with Marine Aviation. You can check the Naval Science listing in the "courses" section of the catalog for more details.

In addition, each of these programs offers financial assistance to participating students. Turn to the financial aid section of "money" in this Catalog for more information.

Student Health Services

General Description

The UCLA Student Health Service is designed to make available the health care

and information a student may need while attending UCLA. Three areas of service are integrated by Student Health to provide a comprehensive approach to meeting health care concerns. These are:

Clinical Care by the SHS professional staff, designed to provide a broad range of services, both preventive and medical, to meet most health care needs, and referral services to professional care elsewhere for services not otherwise provided.

A low-cost *Supplemental Health Insurance Plan* which may be purchased to provide substantial financial coverage for the costs of necessary care which cannot be obtained in Student Health, such as hospitalization, surgery, specialized treatment, or care at facilities other than Student Health.

Programs and Learning Opportunities, including a strong self-help component, to assist students in achieving an awareness of their own health and of assuming responsibility for their own health care, and several programs in which students may participate as active health workers.

The Student Health Service's resources are organized to meet the anticipated health care needs of the majority of students which may arise during active attendance at the University. Student Health offers comprehensive coverage for most conditions. In selected cases, limited direct care is available for predictably chronic or recurring needs. For most long term conditions, however, the student will be assisted in locating resources other than Student Health.

Benefits, Locations, and Hours

Direct clinical care is available to students primarily at the UCLA Student Health facilities, as well as at other U.C. campuses.

General and Emergency Care is available at the Student Health Clinic on the "A" floor, A2-143, of the Center for Health Sciences. Office hours are Monday through Friday, 8:00 a.m. to 12:00 noon, and 1:00 p.m. to 5:00 p.m. EXCEPT TUESDAY when service begins at 9:00 a.m. Emergencies *only,* as determined by the staff, are seen from 11:30 a.m. to 1:00 p.m. and from 4:30 p.m. to 5:00 p.m.

Emergency Care is available at the Pauley Pavilion Clinic located at Gate 10 of Pauley Pavilion from 1:30 p.m. to 6:00 p.m., Monday through Friday. Specifically staffed to provide prompt, expert care for athletic injuries, Pauley Pavilion is open to all students for urgent care.

The Student Health Service facilities in the Center for Health Sciences are open Monday through Friday throughout the year, excepting official University holidays. The Pauley Pavilion Station is open Monday through Friday throughout the academic year only, excepting official University holidays.

When the Student Health Service facilities are closed, students in need of urgent care must seek that care elsewhere, such as in the UCLA Hospital Emergency Room or Acute Care Clinic. Charges for all hospital services are *not* the responsibility of the Student Health Service and remain the financial responsibility of the student. Additionally, the Student Health Service is *not* responsible for inpatient hospital costs at UCLA or elsewhere, nor for ambulance fees.

Benefits are subject to change at the discretion of the UCLA Campus administration, with appropriate official prior notice.

General Medical and Surgical Services

The Student Health Clinics include: a) *Primary Care Clinics* which provide outpatient diagnosis, treatment and consultation for general health care needs. The Clinics are organized to provide services on a walk-in basis as well as on an appointment basis. Students are encouraged to make an appointment by calling 825-2463, or by stopping by the appointment desk in person. Walk-in patients are also seen, according to practitioner availability. b) A wide variety of *Specialty Clinics* to provide medical and/or surgical consultation of a specialized nature upon referral from the Primary Care Clinics. Specialty services include Dermatology, Orthopedics, Surgery, Gynecology, Internal Medicine, Allergy, Chest, ENT, Ophthalmology, Urology and Neurology. c) Ancillary services, such as a professionally staffed *Clinical Laboratory, Radiology Unit,* and *Pharmacy* are available in Student Health to provide support to the Primary and Specialty Clinics.

Moderate fees are currently charged for pharmaceuticals, contraceptive devices and medications, routine physicals and required health evaluations, dental care, immunizations and missed appointments. All other services provided within the Student Health Service Clinics are available at no additional cost to fully registered or pre-paid students during the academic year, and are available to some categories of other students at fee-for-service rates which are considerably less than in the general community. (See Conditions of Eligibility.)

Gynecology and Contraceptive Services

The Women's Health Service provides care for routine women's health needs and treatment of gynecology problems. Family planning (birth control) services are available, as are testing, counseling and referrals for pregnancy. Counseling for sexuality and relationship concerns is also provided. Students wishing to use the contraceptive services are required to first attend one of the educational orientation classes (CCEC classes) offered by the Clinic. These classes are scheduled several times each week and men are encouraged to attend.

All services of the Women's Health Clinic are available to eligible students free of charge during the academic year, with the exception of contraceptive devices and medications. No direct service or coverage is provided by Student Health for abortions, except for counseling and referrals. For additional information, for scheduled class hours, or for appointments, telephone 825-5850 or come in person to Student Health.

Dental Clinic

Services of the Student Health Dental Clinic are available by appointment without the need of a referral. While the primary function of the Dental Clinic is to treat dental emergencies, a limited amount of general dentistry and dental hygienic services is available. Dental examinations, x-rays, prophylaxis, hygiene instructions, and advice and consultation on dental problems are provided. Fees are charged for all services of the Dental Clinic and students are required to pay for care at the time of treatment. For additional dental information, telephone 825-5858.

Mental Health Service

Individual and group psychotherapy as well as diagnostic and psychotherapeutic techniques are available free of charge through the Mental Health Service located in Student Health and through the Psychological and Counseling Service located in the Math Sciences building. The respective staffs of psychiatrists, psychologists and clinical social workers provide help with situational stresses, such as school pressures, family conflicts or relationship problems, as well as with other emotional or psychological concerns. Student visits to these services are strictly confidential, and, in an emergency, a student will always be seen immediately. Telephone 825-7985 for more information or for an appointment in the Mental Health Service, or 825-4207 for information and appointments in the Psychological and Counseling Service.

Student Involvement Programs

Many students enjoy and benefit from the opportunity to become involved in the health care system. Benefits include increased awareness and understanding of health and health care, peer involvement in health counseling and care, student input and participation in health care administration and increased exposure to a variety of health care careers and professions.

If a student is interested in becoming involved, Student Health offers several ways for him/her to do so. Self-care clinics such as *Self-Help Nutrition Clinic* encourage students to play an active role in their own health care. Student outreach programs such as the *Student Health* and the *Peer Health Counselors* give students the opportunity to become involved in providing health care for other students. Committees such as the *Student Health Advisory Committee* and the *Student Health Insurance Committee* represent for-

malized student input into health care administrative decisions.

For more information on the student involvement programs, please call 825-6385.

Hospitalization

The University and the Student Health Service *do not* provide any coverage for the costs of hospitalization or inpatient care at UCLA or at any other hospital. *All* such hospital and related costs are the student's responsibility.

To assure protection against unexpected and sometimes severe financial losses, students should be certain that they are adequately covered either through private hospital/medical insurance, or through purchase of the UCLA Supplemental Health Insurance Plan.

Financial Support of Health Services

Student Health is supported principally by allocations from the General Registration Fee paid by all fully registered students, by the voluntary Optional Health Service Fee paid by some categories of students, and by the fees paid by students for certain services. Those students paying the Registration Fee or the Optional Health Service Fee have standard eligibility status and receive all benefits as described above at no additional cost, except for moderate service charges for pharmaceuticals, contraceptive devices and medications, routine physicals and required health evaluations, dental care, immunizations and missed appointments.

Summer Session Fees, filing Fees, and any other monies advanced for special study categories short of full Registration Fees *do not in themselves provide any support to or eligibility for Student Health services,* but may make such persons eligible for benefits either by paying the Optional Health Service Fee or on a Fee-for-Service basis as explained below. Benefits not directly provided through the UCLA Student Health Service or exceeding stated limits, are the student's personal financial responsibility, with or without the aid of any Health insurance he/she may have. Such insurance, including the UCLA Supplemental Health Insurance Plan (see below), effectively extends the student's overall health care coverage beyond the limits of direct care at Student Health Service.

Conditions of Eligibility

Students paying full Registration Fees in any quarter of the regular academic year of any school, college or division of UCLA are entitled to full benefits as set forth above with official verification of registration. This privilege extends from the first day of the quarter or semester (as officially published) through the last day of the same, except in the case of withdrawal or dismissal. (See below for limitations following withdrawal or dismissal.) If the student intends to register for the next immediately following quarter or semester, his coverage extends through the break between quarters or semesters. On the basis of a reciprocal arrangement between U.C. campuses, students currently registered at other UC campuses may receive care on the same basis as those at UCLA. In the case of an officially confirmed transfer to UCLA as a fully registered student, the student will be entitled to full benefits, during the regular academic year, for the period between the last day of official registration at another UC campus and the first day of the UCLA quarter immediately following.

Some categories of students who pay less than the full Registration Fee may receive Student Health benefits during any quarter (including Summer months) in which their eligibility applies by electing one of the two following payment methods:

A. They may receive full benefits by prepayment of the optional health service fee prior to the close of the 30th calendar day of the quarter or initial Summer Session, or:

B. They may utilize the Student Health Service on a Fee-for-Service basis between the last official day of the academic session just preceding and the opening day of the next session following such periods.

The specific categories of students eligible for these options are as follows:

Continuing students (including those from other UC campuses transferring to UCLA) during Summer months, whether attending Summer Session or not.

Accepted candidates for any UCLA degree including undergraduates who have filed an Intent to Graduate during any quarter of non-registration, for any reason except withdrawal, provided that they have been fully registered or are under academic department sponsorship in the previous quarter, and that they have satisfactory evidence of intent to re-register.

Graduate students actively researching and/or writing dissertations, who have no need to take classes or to register for this purpose, and who are not ready to submit their theses and pay Filing Fees. Service is contingent upon presentation of any official written confirmation of current sponsorship and continuing *bona fide* degree candidacy for the Quarter from the responsible senior Faculty member or Department Head.

Graduate students paying a "Filing Fee" for dissertations, but not otherwise registered for that quarter or Summer period in which that fee is paid.

Postdoctoral fellows and trainees, properly identified as such by their sponsors, working full time towards additional credentials in any quarter or summer period.

Foreign students, not yet registered, but living near campus and working under University sponsorship to meet language and/or other academic prerequisites to full registration, when approved by the Office of International Students and Scholars.

Medical and dental students, technically "registered" for purposes of medicolegal coverage during elective or "free" quarters, but paying no registration fee, with appropriate confirmation.

In all of the above situations service charges incurred prior to the 30th day of the eligible period are *not* automatically cancelled by subsequent payment of the Optional Health Service Fee.

Some other categories of students having only intermittent, partial, or qualified University status, may be eligible for Health Services use, but solely on a Fee-for-Service basis as follows:

Students enrolled in Summer Sessions only, who were not, and will not be, fully registered or enrolled in the preceding or following quarters.

Students whose re-registration in the next regular quarter is in any doubt following withdrawal, or receipt of a degree. In such cases, the Fee-for-Service use privilege extends only to the opening day of the next regular quarter, or the initial Summer Session, whichever is sooner. Thereafter, eligibility on any basis terminates until official confirmation of re-registration or Summer enrollment is presented.

Special scholars, specifically sponsored part-time, visiting, and exchange students and researchers primarily based elsewhere, when officially designated as such by the sponsoring department, may use the Health Service, but only for emergency care of acute illness and injury apparently arising in connection with their scheduled study and activities on the UCLA campus, on a Fee-for-Service basis.

Students who graduate at the end of Spring quarter or semester may use the Student Health services during the Summer quarter immediately following graduation.

Prospective students arriving from significant distances and students required for any University-connected reasons to be on campus prior to the first day of the quarter will be entitled to full benefits during such periods with reasonable documentation of their status and intent to register; if later they fail to register, they will be charged for services actually received.

In some unusual situations, if in the best interests of the student and the University, the Director may approve eligibility as an exception to the foregoing conditions, on a case-by-case basis.

Supplemental Health Insurance

The cost of necesary hospital inpatient care is not covered by Student Health nor is the cost of any care obtained outside of Student Health. Students treated within Student Health following withdrawal from school or

during an unregistered Quarter are liable to Fee-for-Service charges for care received. Since such costs are the student's responsibility, and may cause serious financial hardship, each student *should be certain* that he/she has adequate health insurance coverage. The University requires *as a condition of registration* that all foreign students attending UCLA on non-immigrant visas supply written proof of adequate health insurance to the Student Health Service at the beginning of their first quarter or semester of registration and thereafter *annually*, at the beginning of the Fall quarter. Additionally, the University reserves the right to require adequate health insurance of *all* students as a condition of registration.

If not already covered by health insurance, students are encouraged to purchase the Supplemental Health Insurance Plan developed jointly by the UCLA Student Health Insurance Committee and the Student Health Service. This plan is available at a low cost through the Student Health Service *only* at the beginning of each quarter. The specific enrollment periods for the insurance appear at the front of this catalog.

The Supplemental Health Insurance Plan is negotiated annually and is typically as follows:

It is an "excess" plan providing benefits only after all benefits available from other insurance coverage have been exhausted.

It is a "supplemental" plan, which is intended to provide coverage ONLY for those services not available to students through the Student Health Service facilities. Consequently, no benefits will be payable under this policy should expenses be incurred for services which could have been obtained in Student Health.

"Pre-existing"conditions are not covered. These are conditions for which professional advice or treatment was previously received or which were manifest prior to purchase of the Plan. Such conditions are covered only after continuous enrollment in the Plan for 12 months.

The Plan will also have other specific benefit exclusions. Students are urged to carefully review the policy prior to purchase. Assistance is available at the Student Health Information desk or by calling the Insurance Coordinator at 825-1856.

The Supplemental Health Insurance Plan is not automatically renewed and students are not automatically enrolled in it. Students must reapply for the plan on or before the date the coverage period expires. Renewal notices are not mailed.

Care of Students' Dependents

Due to limitations of staff and space, no care for students' dependents can be provided within the Student Health Service. The Supplemental Health Insurance Plan may be purchased at Student Health for the dependents of any student who has purchased the plan for himself/herself. Dependents' benefits under the insurance plan are identical to those available to the student.

Confidentiality of Medical Records

To protect individual privacy, no information whatsoever will be given to any person regarding a student's medical condition without his/her prior written consent or a legal court order, except in cases of extreme emergency when not to do so would, in the Director's opinion, endanger the student's life, or the lives of others, and as otherwise required by law. Students have the right to examine and review the contents of their medical records in the presence of Student Health professional staff members by appointment and according to established rules. The record itself, however, is the property of the University, and may not be removed from the premises by any person, except under court order.

Care Off Campus

When visiting another University of California campus, a UCLA student is eligible for services at that campus Student Health Service under the same conditions that apply to students enrolled on that campus. Verification of student registration at UCLA will be required. While a student is off-campus participating in an officially sponsored event, necessary medical expenses incurred because of injury are covered by insurance carried by the Regents of the University. This policy does not cover any care which the student could reasonably have obtained through UCLA Student Health Service.

Third-Party Liability and Subrogation

When a student is treated under Student Health Service auspices for illness or injury resulting from third party negligence or intent, the University reserves the right to recover the actual costs of such care as the "prime insurer", by assignment or subrogation from any subsequenct legal settlements and/or awards to the patient.

Federal Income Tax Deduction. For Federal income tax purposes, the amount allocated to Student Health from each quarterly Registration Fee paid during the taxable year may be taken as a deduction for medical care. This amount changes each year, and the exact figure for the most current taxable year may be obtained by contacting the Information Desk at Student Health.

Health Requirements at Entrance

Before beginning coursework at the University, all students are urged to have their own physician and dentist examine them for fitness to perform University work. Students are encouraged to have any health problems capable of being remedied, such as dental cavities, impaired hearing or defective eyesight, corrected before coming to the University.

All new and re-entering students in the Graduate Schools of Dentistry, Education, Medicine, Nursing and Social Welfare must complete and return to the Student Health Service the health evaluation form mailed to them with their registration materials. These individuals are required by the respective Schools to have a thorough physical examination and selected tests and immunizations prior to registration. The required health evaluation procedures are offered by appointment through the Student Health Service at a low cost. Charges for such procedures are the responsibiliy of the individual student.

All new and re-entering foreign students attending UCLA on non-immigrant visas must complete and return to the Student Health Service the health evaluation form mailed to them with their registration materials. These individuals are required by University policy to supply written proof of adequate health insurance to the Student Health Service *annually*, at the beginning of the Fall quarter. Additionally, all new and re-entering foreign students are required to be cleared by Student Health for freedom from tuberculosis infection/disease. These students must have a chest x-ray or tuberculin test performed at Student Health Service.

Other students are not required to complete a health evaluation form as a condition of registration. However, students who would like to participate in a special campus medical program for the physically disabled are urged to contact the disABLEd Students Medical Program Co-ordinator in the Student Health Service at 824-6355.

Additional Information

Metered parking for students visiting the Student Health Service is available on the A-Level of the Center for Health Sciences parking structure. Students and others may obtain additional information about the Student Health Service by telephoning the Health Service at (213) 825-4073, or by writing to: Director, UCLA Student Health Service, A2-143 Center for the Health Sciences, Los Angeles, CA. 90024. The following telephone numbers may be useful for obtaining specific information regarding services at Student Health:

SHS Information	825-4073
Insurance Coordinator	825-1856
Appointments:	
General Care	825-2463
Specialty Clinics	825-1163
Women's Health Service	825-5850
Mental Health Service	825-7985
Dental Clinic	825-5858
Pauley Pavilion Clinic	825-5704
Health Evaluations	825-1163
Health Education	825-6385
Health Advocates	825-4730
Peer Health Counselors	825-8462
Cold Clinic	825-5704
Nutrition Clinic	825-8462

Student Health Advisory Committee	825-6769
Campus Information	825-4321
On-Campus	33
Campus Police	825-1491
On-Campus	35
Escort Service	825-1493
UCLA Emergency Room	825-2111

The Student Health Service encourages students to share their reactions, expectations and health care needs with the Student Health staff or with the Student Health Advisory Committee in order that the Health Service may better serve them. The following suggestions are provided so that students may receve the maximum benefits from the Student Health Service:

- Participate actively in your own health care, including the self-help and student-run programs.
- Become knowledgeable about all the services and informational materials offered through the Student Health Service and take advantage of them.
- If possible, make an advance appointment for services. Remember though, fees are charged for missed appointments, so cancel ahead of time.
- Ask to be seen by a specific clinician if you like and respect that person.
- For walk-in service, come early in the day.
- Be certain that you are adequately covered by health insurance. If not, consider purchasing the UCLA Supplemental Health Insurance Plan.
- Don't hesitate to ask questions about any diagnosis or treatment you may receive. Be sure you understand the answers you are given.
- Use the suggestion forms available in Student Health to make known any comments, complaints or compliments you may have about the Health Service.
- Be a responsible patient and complete the course of treatment prescribed for you, including any follow-up visits or tests that may be necessary.

Student Legal Services

Registered students with legal problems may obtain assistance free of charge in the resolution of their difficulties in such diverse areas as landlord/tenant relations, domestic relations, accident and injury problems, criminal matters and contract and debt problems. Each student will be seen on a walk-in basis in the Dodd Hall 70 office by an attorney or by a law student participating in a clinical program of the UCLA School of Law under the direct supervision of an attorney.

University Policies Commission

The University Policies Commission functions as a deliberative body to study and, when appropriate, to recommend innovations or policy changes which would enhance the quality of the campus environment. Representing all segments of the campus community, its membership includes three students, three faculty members, three non-academic staff members, and three administrators.

Students, faculty, staff and administrators are encouraged to contact the Office at 126 Royce Hall or call 825-7906 with policy items of concern to them and the campus community. For more information about UPC and student government, see the "recreation and participation" section of the Catalog.

Veteran Affairs

The Office of Special Services/Veterans Affairs (located in A-253 Murphy Hall; telephone 825-1501) provides numerous counseling and support services for veterans and physically disabled students. The office also verifies enrollment for Social Security purposes. Services include:

Information

Information for veterans and their dependents about V.A. educational benefits, tutorial assistance,V.A. work-study and loan programs

Fee Waivers

Issued to dependents of California veterans who are deceased or disabled because of service-connected injuries and meet the income restrictions in Education Code Section 10652.

Services for Disabled Students

Any physically limited student may obtain services and assistance including help with registration and enrollment, parking permits, fee determents authorized by the California Department of Rehabilitation, Readers for the Blind, interpretors for the deaf, notetaking, proctoring examinations and minor repairs to wheelchairs.

Status Certification

Certification of student status. For recipients of Social Security benefits.

Visitors Center

The Visitors Center (located in 1215 Murphy Hall; telephones 825-4338 and 825-4467) has a reception area where visitors are met, welcomed, and assisted. Campus appointments for both domestic and foreign visitors, including escorting and interpreting, are part of the services offered.

Campus tours for the public are offered weekly, and personalized campus tours are arranged on special request for visitors and guests of University staff and faculty.

Literature and information on campus events, concerts, exhibits, lectures, and recreation areas are kept .on hand in the Center.

Women's Resource Center

The Women's Resource Center (WRC), Dodd 2, 825-3945, was created by students, staff, and faculty who were concerned about unmet needs of women on the UCLA campus. The Center provides a comprehensive referral service, an answer to or a way to find answers to any questions a person may have, a meeting place for new and ongoing groups. programming on women's interests for the general campus community, and a center for activism on behalf of women's issues. Services include:

- *Personal Referral,* in the areas of career, lifestyle, employment, medical, legal, academic, affirmative action, financial and credit information, and personal counseling.
- *Information Services,* books and magazines on women, information on groups and women's organizations, Women's Studies, single sheet and articles on a wide variety of topics that can be used for research.
- *Group Involvement,* in consciousness raising, assertion training referrals, women returning to education, lesbian sisterhood, program planning, participation in any of the groups that plan and work for the Women's Resource Center, such as volunteer staffing, program development, the quarterly newsletter, and the Women's Information Network (WIN).

About ASUCLA

The Associated Students of UCLA combines four diverse vital campus functions within one organizational structure. Its basic goal is to enhance the quality of UCLA campus life for students and the entire UCLA community by providing meaningful programs and activities through the undergraduate (SLC) and graduate (GSA) student governments and the Communications Board, and by providing commercial services and facilities through its professional staff. ASUCLA operates and manages Ackerman Union, Kerckhoff Hall and the North Campus Student Center.

You will find information about student government in the "recreation and participation" section of this book; a description of ASUCLA services follows below:

Food Services

ASUCLA operates the general campus food service for UCLA with a number of menu options at a variety of locations

The Treehouse—Located on the first floor of Ackerman Union, the Treehouse is the Student Union's main cafeteria and is open for breakfast, lunch and dinner. You can find a carved-to-order roast beef sandwich and make-your-own salad bar; the "Truck Farm" which offers fresh vegetable salads, cold soups, cheese wedges, sandwiches-by-the-inch, fresh fruit and freshly baked specialties;

La Quicherie, offering spinach salad and a variety of crepes; and a line offering a daily selection of entrees. Adjacent to the Treehouse is the Sandwich Room where you can find low-cost traditional sandwiches, along with Belgian waffles for breakfast and barbecued beef sandwiches for lunch. Treehouse hours are 7:00 a.m. to 9:00 p.m. Mon. thru Fri. The Sandwich Room is open 7:45 a.m. to 4:00 p.m. Mon to Fri; 11:00 a.m. to 6:00 p.m. on Sat; and 12 noon to 7:00 p.m. on Sun.

The Coop—A fast-food unit, is currently closed for remodeling. An entirely new look and menu will be featured when construction is complete.

North Campus Student Center—This food service facility is located just south of the Research Library and offers a full range of menu options, including carved-to-order sandwiches, full-course entrees, deli-type sandwiches, a salad bar, hamburgers and french fries, and special "garden sandwiches". North Campus is open for breakfast, lunch and dinner. Hours are: Mon-Thu 7:30 a.m. to 11:00 p.m. Fri 7:30 a.m. to 8:00 p.m., Sat 10:00 a.m. to 6:00 p.m., Sun 11:00 a.m. to 8:00 p.m.

The Bombshelter Deli and Burger Bar—This unique food service is located in the center of the Court of Sciences. It offers an assortment of deli sandwiches and salads at low prices. In addition, you can get hamburgers and fries or a genuine falafel for lunch. "Gypsy breakfasts" are served in the morning. It is open Mon-Fri; 7:30 a.m. to 5 p.m., Sat 10 a.m. to 3 p.m.

Campus Corner—The oldest of the ASUCLA facilities, the Campus Corner, is located just across Bruin Walk from Meyerhoff Park. Pita bread pocket sandwiches, soft frozen yogurt, hamburgers and french fries are available. Hours are 7:30 a.m. to 5:00 p.m. Mon – Thu; 7:30 a.m. to 4:00 p.m. on Fri; 11:00 a.m. to 4:00 p.m. on Sat; and 12 noon to 4:00 p.m. on Sun.

The **Kerckhoff Coffee House** is located on the second floor of Kerckhoff Hall and offers ice cream specialties, a variety of teas and coffees, plus an assortment of entree and dessert crepes. Live entertainment is featured almost every night. The Coffee House is open 7:30 a.m. to 1:00 a.m. Mon thru Fri and 11:00 a.m. to midnight Sat and Sun.

Potlach is a lounge on the first floor of the Graduate School of Management (GSM 1323A) which offers sandwiches, snacks and beverages. Hours are Mon – Thu 7:45 a.m. to 9:00 a.m.; Fri 9:00 a.m. to 3:00 p.m.

Banquets and Catering—The ASUCLA Food Service also provides catering service within the Student Centers. They will be delighted to discuss any banquet or catering needs and are prepared to offer attractive and innovative options. Visit the catering office in 1311 Ackerman Union or call them at 825-0611.

Students' Store

The ASUCLA Students' Store is actually a "mini department store" with three locations on campus: Ackerman Union, the Center for the Health Sciences and the North Campus Student Center. The Students' Store offers a wide variety of textbooks, general books, school and art supplies, dental and medical supplies, electronic items, sporting goods, "UCLA" merchandise (Bear-wear), casual and fashion clothing, food, health aids, greeting cards, and Lecture Notes. The main store is located on B level of Ackerman Union; telephone 825-7711. It is open Mon – Thu 7:45 a.m. - 7:30 p.m., Fri 7:45 a.m. - 6:00 p.m., Sat 10:00 a.m. - 5:00 p.m., and Sunday 12:00 noon - 5:00 p.m. during school session; and Mon - Fri 8:30 a.m. to 5:30 p.m., Sat and Sun 12:00 noon - 5:00 p.m. during school breaks.

Graphic Services

ASUCLA Graphic Services is the campus center for photographic, printing, typographical and other graphic services. It is located on the first floor lobby of Kerckhoff Hall in what was formerly just the Campus Studio. Services include Xerox and book copying, quick offset, custom printing, typesetting, commercial photography, color portraits, senior portraits (all academic apparel furnished), identification and passport photographs, "Perma Plaques", film and discount photofinishing. Telephone is 825-0611; Hours are Mon-Thu 7:45 a.m.-7:30 p.m.; Fri 7:45 a.m.-6:30 p.m.; Sat 10 a.m.-5 p.m.; Sun 12 noon-5 p.m.

Check Cashing

Students, staff and faculty with current UCLA identification may cash a personal check for up to fifty dollars a day, with a 15-cent service charge for each check at the Service Center in 140 Kerckhoff Hall. Postdated checks may also be cashed for up to $50.00 with a 35-cent service charge. The check will be held for two weeks before being sent to the bank. Only one postdated check per two-week postdating period is allowed. Traveler's checks in amounts up to $50.00 per day may be cashed with a 15-cent service charge. Check cashing hours are: Mon - Fri. 9:00 a.m. - 4:00 p.m.; Sat. 10:00 a.m. -5:00 p.m., Sun 12 noon -5:00 p.m. No postdated checks may be cashed during the weekend hours.

Money Orders

At the Money Order Window in 140 Kerckhoff Hall, students may purchase money orders for up to $200, with the exception of those to the UC Regents which can be over this limit. There is a service charge of 35 cents for each money order. The Money Order Window is open Mon-Fri 8:30 a.m. - 4:30 p.m.

Post Office Boxes

Are available to students, staff and faculty in 140 Kerckhoff Hall for $4.50 per quarter or $15 per year for a small box; or $5.50 per quarter or $20 per year for a large box. The Post Office Box rental window is open Mon-Fri 8:30 a.m.-4:30 p.m.

Meeting Rooms and Lounges

The following lounging and meeting spaces are available for the use of the entire campus community, with emphasis on students and groups: four meeting rooms, two very large activity rooms and the Grand Ballroom in Ackerman Union; three meeting rooms in Kerckhoff Hall; and two meeting rooms in the North Campus Student Center.

Public lounges include the Upstairs Lounge located on the third floor of Kerckhoff Hall; the Downstairs Lounge and the Alumni Lounge, on the second floor of Kerckhoff Hall and a lounge in the North Campus Student Center.

Students may reserve a space for a meeting in Acketman Union or Kerckhoff Hall by visiting the Information Desk on the first floor of Ackerman Union or by phoning (213) 825-0611, and may reserve space at the North Campus Student Center by visiting the information area at North Campus or by phoning (213) 825-0611 ext. 331.

Travel Service

The ASUCLA Travel Service on "A" level of Ackerman Union, offers a selection of domestic and international charter flights, land arrangements and charter packages, student tours, and scheduled air and rail tickets, as well as other travel-related services. The Travel Service is open Mon - Fri 9:00 a.m.—6:00 p.m. and Sat 9:00 a.m.—1:00 p.m.

Need a Job?

ASUCLA Personnel provides opportunities for students who want part-time jobs on campus. ASUCLA offers more than 1300 part-time positions, all reserved for registered UCLA students, and, in many cases, no prior work experience is required. These are especially good jobs since ASUCLA is used to arranging your work schedule around your academic schedule.

You can find the ASUCLA Personnel Office in 205 Kerckhoff Hall; telephone 825-7055. Hours are Mon-Fri 8:00 a.m.—5:00 p.m.

Alumni Association

You don't have to be an alum to take advantage of the programs and benefits of the UCLA Alumni Association. Staff, parents, University Extension students are all eligible for membership—and students can join for only $5 a year.

If you're a graduating senior, you may want to join as an alumni member ($20 a year), which lets you in on a special discount on cap and gown rental, a 20% discount on diploma permaplaquing, a discount on a University Extension class, alumni section football seating, discounts on selected UCLA Athletics and more. Those joining as life members also receive 10 free graduation announcements. Some of the activities of the Alumni Association are:

Student Relations

Student Relations Programs are designed to

encourage students to talk and meet with UCLA students, faculty and alumni through a series of unique "Dinners for 12 Strangers" which are held during the Winter Quarter each year. Other alumni programs for students feature student membership, which offers all kinds of benefits at a special price, and young alumni events for recent graduates.

Career Resources

The Association is also committed to the career and employment needs of students and graduates and has recently established several cooperative programs with the UCLA Placement and Career Planning Center for the purpose of providing informal career guidance and generating job opportunities.

Advisory and Scholarships

Advisory and Scholarship Program, the oldest of the Association's programs, awards approximately $100,000 in merit scholarships to entering freshmen. Scholarships range from $700 to $3,500. Eligibility for the awards are a minimum 3.50 GPA and California residency. Financial "need" is not a requirement, and the awards are conferred on a competitive basis. Recipients of the awards are known as Alumni Scholars and form a club which engages in a number of university service and recreational activities. In addition, the program provides training to Alumni who serve as "advisors" to highly able high school seniors, in a project jointly sponsored with the Office of Academic Services.

Clubs

Under the umbrella of the Alumni Association are many organizations, grouped according to their function or geographic location.

More Information

You can get more information about the facilities of the UCLA Alumni Association by phoning 825-3901, or drop by the James E. West Center (across Westwood Plaza from Ackerman Union) Mon-Fri 8:30 a.m.—5:30 p.m.

Need to Know More?

This section of the Catalog has given you a spotlighted selection of available student services. It's designed to tell you that they're here—and how to find them. It is worth repeating, though, that the best way to learn more about each of them is to call or visit the offices mentioned here.

Reference copies of "Finders Keepers" also include information about Student Services. They are available through all department, college, school and ASK counselors at the College Library and University Research Library reference desks and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

recreation and participation at UCLA

The fact is, the phrase "a college education" is an incomplete description of the opportunities available at UCLA. One of the most stimulating aspects of the UCLA experience is the fact that there is not just a single education here—"a college education"—but actually many different avenues to learning which, taken all together, make up the components of your education at UCLA.

Most of the other sections of this Catalog have focused on the academic aspects of UCLA. This section will attempt to describe the educational experiences which occur outside the classroom.

One other note: the information you find here is related to the "student services" section of this book as well as the chapter called "resources to help you". And, like those other sections, this information will only be of real value if you actually make a move and use it.

Lastly, you should notice, too, that the activities, places and experiences touched on here are open to people at all levels of skill or interest, with all levels of spare time or spare money.

Involvement outside the classroom can make a major difference to the quality of your education here—"a college education" enhanced by the collection of choices talked about below.

Athletics

A first look at UCLA, an impression of classrooms surrounded by a grassy sea of playing fields, is a fairly accurate picture of the relationship between athletics and academics here.

There is a wide assortment of athletic opportunities available for men as well as women, for intercollegiate team play or a solitary jog at dusk. If you already have a favorite sport, you will get plenty of chances to practice it. If you have always wanted to learn about a new one, there are lots of people to teach you how to do it.

Men's Intercollegiate Sports

UCLA is a member of the Pacific 10 Conference, which includes Arizona State University, University of Arizona, University of California, Berkeley, Stanford University, University of Southern California, University of Oregon, Oregon State University, Washington State University, and the University of Washington. The Pacific 10 provides opportunities for participation on the varsity level in football, basketball, track, baseball, tennis, crew, volleyball, gymnastics, swimming, water polo, riflery, golf, wrestling, soccer, rugby, fencing, cricket and cross-country.

As a player or a spectator, there is always something happening on the UCLA men's intercollegiate calendar.

Women's Intercollegiate Sports

The Department of Women's Intercollegiate Athletic sponsors eleven different varsity programs for women athletes under the jurisdiction of the Association for Intercollegiate Athletics for Women (AIAW) and the Western Collegiate Athletic Association (WCAA). UCLA's women's teams have won many national, regional and conference titles and have national ranked teams in basketball, volleyball, swimming, tennis, track and field, cross-country, and gymnastics. Athletic grants-in-aid are available on a selective basis in most sports.

UCLA is proud of its commitment to women's athletics and is equally proud of the athletes themselves, who have achieved distinction at the highest levels of national and international competition.

More Information

If you would like more information on the UCLA Intercollegiate Sports Program, call the Department of Athletics at 825-3236 or 825-3326.

Office of Cultural and Recreational Affairs

The Office of Cultural and Recreational Affairs serves as the administrative center for the coordination of facilities, equipment, programming and supervision of campus recreational activities and services. All students who have paid the full registration fee are entitled to these services. Four professionally staffed divisions provide a variety of services and programs to accommodate the total campus community. You will find additional descriptions of these activities in the "student services" section of this book. These are:

Recreation Services and Facilities: Opportunities for informal participation in swimming, body conditioning, basketball, handball, volleyball, badminton, tennis, and field sports are available seven days a week at the two gymnasiums, the Memorial Activities Center, the athletic fields, and tennis courts. In addition, recreation classes are offered in tennis, skiing, volleyball, exercise and figure control, swimming, water safety, senior lifesaving, gymnastics, etc.

You can get more information by visiting room 164 of Pauley Pavilion, or by telephoning 825-4546.

Intramural Sports: Organized participation at various skill levels in seventy-four activities is available on an individual, dual, and team basis. The total program includes coed activities as well as the wide range of sports for men and women. The Intramural Office is located in Men's Gym 118, telephone 825-3267 or 825-3360.

University Recreation Association: The University Recreation Association is a federation of over forty special interest clubs which features clinics, seminars, exhibitions, concerts, lectures, classes, tournaments, and field trips. The clubs serve students with interests ranging from chess to surfing, and karate to skiing. Visit the URA Office in Kerckhoff Hall 600 or telephone 825-3703.

Sunset Canyon Recreation Center: The Sunset Canyon Recreation Center is a recreational and cultural facility aesthetically designed to serve the University community. It is open all year, seven days a week, for formal and informal use on both an individual and a group basis. Located in the hills of the west campus adjacent to the residence halls, it features two swimming pools (one for children), picnic-barbecue areas, multipurpose play fields, and an outdoor amphitheater. Rooms are available for meetings, receptions, symposia, dances, catered luncheons and dinners. The Center sponsors programs of poetry readings, informal concerts, exhibitions and art classes for adults and children. An extensive aquatic program includes swim classes for children and adults. You can call 825-3671 to get more information.

Cultural Opportunities

The geographical location of UCLA and its position as a leader in the arts combine to make a rich variety of cultural activities available.

On Campus

If you wish to be active beyond the sphere of your field of specialization, there are clubs (see description later in this section) and interesting classes offered to non-majors by various academic departments.

Complementing the academic environment, UCLA offers you the opportunity for personal growth and development in a variety of programs and activities.

The campus presents a changing variety of cultural and recreational events, many of which are free of charge or available to the student with substantial discounts. For time and place you are urged to check the student newspaper—the *Daily Bruin*—and the campus announcement boards.

All that can be done in a catalog is to give you an overview of what happens on campus.

In Music there are fine choral groups as well as the Opera Theater. Also, instrumentalists are invited to play with the University Symphony Orchestra and the Collegium Musicum, a group utilizing the famous Lachmann Collection of Historical Stringed Instruments. The UCLA bands include the Wind Ensemble, the Symphonic Band, the Marching Band, the Varsity Band and the Jazz Ensemble. Augmenting the campus activities of the bands are frequent off-campus performances.

Since there is an extensive program in ethnomusicology on the UCLA campus, students also have the unique opportunity to participate with various non-Western performance groups, all playing on representative native instruments.

UCLA also offers students numerous opportunities in theater arts through the various programs of the Theater Arts Department. The creative and technical work on productions is done by major students in the Department, but acting roles in all media are open to any student registered in the College of Fine Arts. Each year the Theater Division presents to the general public a series of major productions in the Ralph Freud Playhouse, the Little Theater and the "arena theater." Other activities of the division include the program of One-Acts written and directed by students; the productions of the puppet theater; and the Children's Theater program. The Motion Picture/Television Division produces about three hundred student-directed films each year, with various screenings, as well as numerous television programs.

You will also find the opportunity for participation in afternoon and evening dance concerts and demonstrations and in dance assignments in many theater and opera workshop productions. There are folk and ethnic performing groups which meet regularly. Students of dance may direct and choreograph, as well as perform.

In addition, UCLA is one of the nation's leading university centers for the performing and graphic arts, presenting an average of more than 600 individual cultural events each year to both campus and community audiences. An extensive schedule of professional presentations of the Committee on Fine Arts Productions features performances by world-renowned artists both classical and popular. There is a full calendar of exceptional programs by the Music, Dance and Theater Arts Departments, including the Motion Picture and Ethnic Music Divisions. Another aspect of the program, sponsored by ASUCLA and/or the Student Committee for the Arts, brings leading jazz and folk presentations and artists-in-residence to campus.

The Committee on Public Lectures sponsors free public lectures of general and scholarly interest by distinguished authorities, supplementing and stimulating the work of University departments and sharing with the community at large its resources and expertise.

In the graphic arts, the Frederick S. Wight Art Gallery and the Grunwald Center for the Graphic Arts in Dickson Art Center have established a national reputation for presenting and originating important exhibitions, including the distinguished annual UCLA Art Council Exhibition. The Museum of Cultural History presents regular exhibitions that include works from one of the world's foremost university collections of ethnic art.

A special Student Committee for the Arts subsidy program provides tickets to UCLA students at only $2 for a great many campus events. Tickets are obtainable at the Kerckhoff Hall Ticket Office. Public tickets to events sponsored by the Committee on Fine Arts Productions are available at the UCLA Central Ticket Office, 650 Westwood Plaza, which also makes a limited number of tickets available to all full-time day students at reduced rates.

Off Campus

Westwood Village has become the entertainment magnet for the entire West Los Angeles area. There are 17 first-run movie theaters, a crowded menu of restaurants, several bookstores, a couple of discos and a pinball arcade. Prices tend to be high, but Westwood has the advantage of being accessible from campus on foot. In fact, the most popular Westwood activity—walking the streets and watching the people—is free.

In any one of the bookstores in Westwood, you will also find an entire shelf of books devoted to the cultural attractions of the town beyond Westwood—Los Angeles. While these guidebooks attest to the impossibility of summarizing the vibrant cultural life of the city, they also indicate the virtually limitless list of "things to do". Los Angles is home to major museums, motion picture studios, a world-renowned symphony orchestra and many other cultural focal points.

Two encouraging generalizations can be made, however: most cultural activities (Music Center, Los Angeles County Art Museum and so forth) feature a student discount policy or student ticket performances. And, a car isn't really necessary to get to most of the off-campus attractions. (Please see the "transportation" section of this Catalog.)

UCLA and the Natural Environment

UCLA is located in an urban setting but the campus is also close to miles of coastline along the Pacific Ocean, and acres of protected wilderness in the Santa Monica Mountains. The natural environment beyond Los Angeles offers the unmatched resources of the entire state, from uninhabited islands to popular ski resorts.

Travel

Several sorts of travel opportunities are available at UCLA. The ASUCLA Travel Service (see listing in the "student services" section of this Catalog) can arrange charter air fares to many major cities at the lowest possible cost; rail tickets are also on sale.

In addition, several clubs offer charters and tours.

Day trips to San Diego or weekend excursions to San Francisco are also popular outings.

Clubs

The clubs and registered organizations on campus provide an added dimension to the UCLA experience. There are clubs for joiners and non-joiners, too, representing almost every interest. And, if your interest isn't covered by a club, you can start your own.

A full listing of registered student organizations is available in the CPAO Office, 161 Kerckhoff Hall (telephone 825-7041); clubs centering on sports and recreation are listed in the University Recreation Association Office, 600 Kerckhoff Hall (telephone 825-3703). Each of these offices can provide you with information on how to join—or start a club at UCLA.

Fraternities and Sororities

Sample costs are discussed in the "housing" section of this Catalog. Fraternity and sorority life offers those who are part of it more than simply a place to live. Serving as a small, tightly knit community within the larger community of UCLA, each fraternity or sorority house provides a center for academics, athletics and social life.

You can find out more about the fraternities and sororities at UCLA by contacting either the Panhellenic Council (sororities) or the UCLA Interfraternity Council (fraternities) in care of the Dean of Students Office, 2224 Murphy Hall, 405 Hilgard Avenue, Los Angeles, California 90024, (213) 825-3871.

In the past few years, UCLA has witnessed a tremendous upsurge in the popularity of fraternities and sororities—otherwise known as the Greeks—whose members now number more than 3,800.

There are 25 fraternities and 18 sororities, all chapters of their respective national organizations. The fraternities are bound together and overseen by the Interfraternity Council, the sororities by Panhellenic Council, making them the most organized of the living groups.

Student Government

Student Government at UCLA offers a chance for expression that students may feel is lacking in other parts of their university experience: Why not make an effort to become involved in the decision-making process here?

Students have control of more than $300,000 to run over 50 different programs.

In recent years the dimensions of student government have expanded in many directions, and there have been changing priorities for the utilization of our financial and human resources. The quality of the education we receive and the student input into the educational process have become high priorities, and the question of safety on and off campus is an ever-increasing concern. Many student leaders have also realized that high-level decision making can be affected by approaching not only university administrators, but also officials at the local, state, and national levels. This has led to the development of effective lobbies dedicated to meeting the needs of our unique community.

Additionally, the wide variety of student government programs offer invaluable service to the community and provide an opportunity for thousands of students to benefit from these endeavors. Some highlights include Mardi Gras, the world's largest collegiate activity, Project Awareness, an objective voter information booklet, and outstanding guest speakers provided through the Campus Events Commission. This Speakers Program, enjoyed by over forty thousand students, faculty, and staff each year, is a well-known forum where persons of significance, all political persuasions, and all professions are invited by the Association to address the student body. Finally, over one thousand students participate voluntarily in community service programs such as the Exceptional Childrens Tutorial Project and the Prison Coalition.

For more information on undergraduate student government at UCLA, visit room 304, Kerckhoff Hall or telephone 825-7068.

Service Projects

If you get satisfaction from helping others, UCLA service groups welcome your participation.

Among these are the **Arnold Air Society** (Dodd 251, 825-1742), **Bruin Belles** (825-3091), **Bruin Circle K** (824-1313), **Bruin Sign Language Club, Phrateres** (825-3901), **Delta Sigma Theta, Omega Sigma Tau** (an Asian service group), **Peer Health Counselors** (Kerckhoff 312-A, 825-8462), **Phi Alpha Theta, Rally Committee** (Kerckhoff 129, 825-2168), **Theta Kappa Phi, UCLA Anchors** (Navy ROTC, 825-9075), **UCLA Helpline** (825-7464), **Panhellenic Council** and **Interfraternity Council** (825-3871) and **Alpha Lambda Delta.**

Each of these provides, in some form or another, an opportunity to get involved in service projects.

An Urge to Action

Through its commissions, governing boards—and the people who serve on them—student government at UCLA offers a direct role in decision making at UCLA. Students hold membership on policy groups governing the use of the Registration Fee, ASUCLA Board of Control, Academic Senate and the Board of Regents, to name just a few. Additionally, student activities such as Mardi Gras, participation on student publications, and nearly every other facet of student life is sponsored or organized in some way by student government. Some 40 different committees, in fields ranging from the arts to general University policy offer an opportunity for involvement outside the classroom.

Living groups such as the dormitories as well as many academic departments also encourage student activities. Whether on your dorm floor, or at a meeting of the Board of Regents, students have a say in the actions which govern their lives at UCLA.

Remember, too, that any community tends to "get the government they deserve"—another way of saying that your participation (or lack of it) can make a difference.

Need to Know More?

"Finders Keepers" has more information about recreation and participation opportunities at UCLA. Reference copies are available through all department, college, school and ASK counselors at the College Library and University Research Library reference desks and at a number of other counseling locations (AAP, Admissions, Dean of Students Office, Honors Programs Office, Placement and Career Planning Center and Psychological and Counseling Services).

At the start of this section, it was indicated that unlike some other sections of this book, specific details covering every available cultural and recreational opportunity available presents an impossible task. Checking daily newspapers, the *Daily Bruin*, campus bulletin boards or taking a stroll up Bruin walk will serve to keep you current with what is going on.

admission registration enrollment & student conduct . . .

Non-Discrimination

The University of California, in compliance with Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972 (45 CFR 86), and Sections 503 and 504 of the Rehabilitation Act of 1973, does not discriminate on the basis of race, color, national origin, religion, sex, or handicap in any of its policies, procedures, or practices; nor does the University, in compliance with the Age Discrimination in Employment Act of 1967 and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, discriminate against any employees or applicants for employment on the basis of their age or because they are disabled

veterans or veterans of the Vietnam era. This non-discrimination policy covers admission, access, and treatment in University programs and activities, and application for and treatment in University employment.

In conformance with University policy and pursuant to Executive Orders 11246 and 11375, Section 503 of the Rehabilitation Act of 1973, and Section 402 of the Vietnam Era Veterans Readjustment Act of 1974, the University of California is an affirmative action/equal opportunity employer.

Inquiries regarding the University's equal opportunity policies may be directed to the Assistant Chancellor-Legal Coordinator, 2135 Murphy Hall, UCLA, or the Director of the Office for Civil Rights, Department of Health, Education & Welfare.

Students may complain of any action which they believe discriminates against them on the ground of race, color, national origin, religion, sex, or handicap, and may contact the Dean of Students, 2224 Murphy Hall, for further information and procedures.

Undergraduate Admission

The admission requirements of the University of California are founded on two basic assumptions: first, that the best assurance of success in the University is shown by high quality of scholarship in previous work; and second, that the study of certain specified subjects will provide students not only sound preparation for the range of University courses but also reasonable freedom in choosing their field of specialization.

Fulfilling the requirements stated below, however, may not necessarily assure admission to the campus of your first choice. On some University of California campuses, limits have had to be set for the *enrollment of new students;* thus, not everyone who meets the minimum requirements can be admitted. At UCLA, for example, students who are, or who would be, college seniors are discouraged from applying.

Admission to Freshman Standing—Residents

An applicant for admission to freshman standing is one who has not enrolled in any college-level institution since graduation from high school (except for a summer session immediately following high school graduation).

The requirements listed below apply to California residents; if you are a non-resident, please see the "special requirements for non-residents" discussion later in this section of the Catalog.

High School Subject Requirements

Courses offered in satisfaction of the following subject requirements must be included on a list submitted to the Director of Admissions of the University by the high school principal, if the school is located in California. This list must have been certified by the principal and then, in turn, have been approved by the Director of Admissions. If the high school is not located in California but is regionally accredited, appropriate courses will be considered acceptable.

A. History—1 Year

This must consist of a year course in United States history, or one-half year of United States history and one-half year of civics or American government.

B. English—3 Years

These must be university preparatory courses in English composition and literature with no more than one year taken in the ninth grade.

Effective Fall Quarter, 1981, four years of English will be required. The fourth year of English may be waived if one of the following tests are taken:

1. University of California Proficiency Examination in English Composition;
2. College Board Achievement Test in English Composition (ECT); or
3. Advanced Placement Test in English Composition and Literature, or English Language and Composition.

C. Mathematics—2 Years

These must consist of university preparatory courses in such subjects as algebra, geometry, trigonometry, calculus, elementary functions, matrix algebra, probability, statistics, or courses combining these topics.

D. Laboratory Science—1 Year, completed after the ninth grade.

This must be a year course in one laboratory science.

E. Foreign Language—2 Years

These must be in one language. Any foreign language with a literature is acceptable.

F. Advanced Course—1 or 2 Years

This must be chosen from one of the following:

Mathematics. A total of 1 year of mathematics beyond the 2 years offered toward the mathematics requirement.

Foreign language. Either an additional year in the same language offered toward the foreign language requirement or 2 units of another foreign language.

Science. A year course in laboratory science taken after the one year science requirement is completed.

The subject requirements listed above may be satisfied only by courses completed with a grade of "C" or higher.

Scholarship and Examination Requirements

Eligibility for admission is based on a combination of your grade point average in the A-F subject requirements listed above and the scores on either the SAT examination given by the College Entrance Examination Board or the ACT test given by the American College Testing Program. In addition, you are required to submit scores for three achievement tests of the College Entrance Examination Board, which must be taken in the following areas:

1. English composition
2. Mathematics
3. Social studies or a foreign language.

Eligibility Table

The following Eligibility Index Table may be used by California high school graduates and residents to determine their eligibility for freshmen admission to the University.

A-F*** GPA	ACT* Composite	SAT** Total
2.78	35	1600
2.79	35	1580
2.80	34	1550
2.81	34	1530
2.82	33	1510
2.83	33	1480
2.84	33	1460
2.85	32	1440
2.86	32	1410
2.87	32	1390
2.88	31	1370
2.89	31	1340
2.90	30	1320
2.91	30	1300
2.92	29	1270
2.93	29	1250
2.94	28	1230
2.95	28	1200
2.96	27	1180
2.97	27	1160
2.98	26	1130
2.99	26	1110
3.00	25	1090
3.01	25	1060
3.02	24	1040
3.03	24	1020
3.04	23	990
3.05	22	970
3.06	21	950
3.07	21	920
3.08	20	900
3.09	19	880
3.10	18	850
3.11	18	830
3.12	17	810
3.13	16	780
3.14	15	760
3.15	14	740
3.16	14	710

3.17	13	690
3.18	12	670
3.19	11	640
3.20	10	620
3.21	9	600
3.22	9	570
3.23	8	550
3.24	8	530
3.25	7	500
3.26	7	480
3.27	6	460
3.28	6	430
3.29	5	410
3.30	5	400

*ACT is scored in intervals of 1 point from a minimum of 1 to 35 maximum.
**SAT is scored in intervals of 10 points from a minimum of 400 to 1600 maximum.
***"A-F" subjects are listed above, under "high school subject requirements".

If prospective applicants need detailed information about these requirements, they should consult the Undergraduate Admissions Circular or the Undergraduate Admissions and Financial Aid Application Packet available in the Undergraduate Admissions and Relations with Schools Office or in high schools and community colleges.

The test results of all applicants will be used for purposes of counseling, placement and, when possible, satisfaction of the Subject A requirement, as well as determining eligibility for admission.

The verbal and mathematics scores on the Scholastic Aptitude Test must be from the same sitting.

For arrangements to take the tests, see below.

Admission by Examination Alone

An applicant who does not meet the scholarhip and subject requirements for admission and who has not registered in any college-level institution (except for a summer session immediately following high school graduation) may qualify for admission by examination alone. For admission of nonresident applicants by this method, see "special requirements for non-residents" later in this section.

To qualify, you must achieve high scores in the examinations required of all eligible applicants. Your total score on the Scholastic Aptitude Test must be at least 1100; the scores on the three Achievement Tests must total at least 1650, and your score on each must be at least 500.

Taking the Tests

You can obtain information about the tests or make arrangements for taking them by applying to Educational Testing Service, P.O. Box 1025, Berkeley, California 94701, or P.O. Box 592, Princeton, New Jersey 08540, or the American College Testing Program, 555 Capitol Mall Suite 766, Sacramento, California 95814. Scores will be regarded as official only if they are received by the Admissions Office directly from these Testing Services.

High School Proficiency Exam

The University of California will accept the Certificate of Proficiency, awarded by the State Department of Education upon successful completion of the California High School Proficiency Examination, in lieu of the regular high school diploma. However, all other University entrance requirements (subject pattern, grades, tests), must be met. The date of graduation on University records will be the date of the certificate. Entrance by CEEB scores will remain an option for the student ineligible on the basis of high school record.

Admission to Advanced Standing—Residents

The University defines an "advanced standing applicant" as a high school graduate who has been a registered student in another college or university or in college-level extension classes other than a summer session immediately following high school graduation. An advanced standing applicant may not disregard the college record and apply for admission as a freshman.

Requirements

As you will see below, the requirements for admission in advanced standing vary according to your high school record. If you are a nonresident applicant, you must also meet the additional requirements described under "special requirements for non-residents" later in this section. If you have completed less than twelve quarter or semester units of transferable college credit since high school graduation, you must also satisfy the examination requirement for freshman applicants.

The transcript you submit from the last college you attended must show, as a minimum, that you were in good standing and that you had earned a grade-point average of 2.0 or better. If your grade-point average fell below 2.0 at any one college you attended, you may have to meet additional requirements in order to qualify for admission.

Your grade-point average is determined by dividing the total number of acceptable units you have attempted into the number of grade points you earned on those units. You may repeat courses that you completed with a grade lower than "C" up to a maximum of 16 quarter units without penalty.

The scholarship standard is expressed by a system of grade points and grade-point averages earned in courses accepted by the University for advanced standing credit. Grade points are assigned as follows: for each unit of A, 4 points; B, 3 points; C, 2 points; D, 1 point; I and F, no points.

As an advanced standing applicant you must also meet one of the following conditions:

1. If you were eligible for admission to the University as a freshman, you may be admitted in advanced standing at any time after you have established an overall grade-point average of 2.0 or better in another college or university.

2. If you were not eligible for admission as a freshman only because you had not studied one or more of the required high school subjects, you may be admitted after you have:

a. Established an overall grade-point average of 2.0 or better in another college or university,

b. Completed, with a grade of "C" or better, appropriate college courses in the high school subjects that you lacked, and

c. Completed twelve or more quarter or semester units of transferable college credit since high school graduation or have successfully passed the CEEB tests required of freshman applicants.

3. If you were not eligible for admission as a freshman because of low scholarship or a combination of low scholarship and a lack of required subjects, you may be admitted after you have:

a. Established an overall grade-point average of 2.4 or better in another college or university; and

b. Completed, with a grade of C or better, appropriate college courses in high school subjects that you lacked. Up to two units (a unit is equal to a year's course) of credit may be waived, or completed one college course in mathematics, one in English and one in either U.S. History, a laboratory science, or a foreign language. You must pass these courses with a grade of C or better. Courses other than mathematics must be transferable to the University. The course in mathematics must complete a sequence of courses at least as advanced as the equivalent of two years of high school algebra (elementary and intermediate) or one year of algebra (elementary) and one year of high school geometry; and

c. Completed 84 quarter units (56 semester units) of college credit in courses accepted by the University for transfer.

Credit for Work Taken in Other Colleges and by Examination

The University grants unit credit for courses appropriate to its curriculum which have been completed in other regionally accredited colleges and universities. This credit is subject to the restrictions of the senior residence requirement of the University. (You can find this requirement under "grades and scholarship requirements" in the "academics: undergraduate education" section of this book.)

As an integral part of the system of public education in California, the University accepts, usually at full unit value, approved transfer courses completed with satisfactory grades in the public junior colleges of the State. Such transfer courses are limited,

however, to a maximum of 70 semester units or 105 quarter units. Individual colleges and schools should be consulted concerning additional credit limitations.

Extension courses taken at an institution other than the University may not necessarily be acceptable. The decision regarding their acceptability rests with the Office of Undergraduate Admissions.

In addition, credit may be allowed for having completed with high scores, certain tests of the College Board. These include Advanced Placement Examinations. You should be sure to contact the Admissions Office before taking any examinations to determine whether they are acceptable.

Special Requirements for Non-Residents

The regulations discussed below are designed to admit out-of-state applicants whose standing, as measured by scholastic records, is in the upper half of those who would be eligible under the rules for California residents.

You can find a full definition of residence and non-residence in the "money" section of this Catalog.

Freshman Standing

(See also Requirements for Admission to Freshman Standing for residents, discussed earlier in this section.)

Graduation from High School. The acceptability of records from high schools outside California will be determined by the Office of Undergraduate Admissions.

Subject Requirements The same subject pattern as for California residents is required.

Scholarship Requirements. You must have maintained a grade-point average of 3.4 or higher in the required high school subjects (grade points are assigned as follows: for each unit of "A", 4 points; "B", 3 points; "C", 2 points; "D", 1 point; incomplete and failure, no points).

Examination Requirements. A nonresident applicant must take the same SAT or ACT tests as those required of a resident applicant; however, the Eligibility Index applies to California residents only.

Admission by Examination Alone

A nonresident applicant who is not thus eligible for admission and who has not registered in any college-level institution (except to a summer session immediately following high school graduation) may qualify for admission by examination alone. The requirements for a nonresident applicant are the same as those for a resident (discussed above) except that the scores on the three Achievements Tests must total at least 1725.

Advanced Standing

If you met the admission requirements for freshman admission as a nonresident, you must have a GPA of 2.8 or higher in college courses that are accepted by the University for transfer credit.

If you are a nonresident applicant who graduated from high school with less than a 3.4 GPA in the subjects required for freshman admission, you must have completed at least 84 quarter units (56 semester units) of transferable work with a GPA of 2.8 or higher. If you lacked any of the required subjects in high school, you must have completed college courses in those subjects with a grade of C or higher. Up to two units (a unit is equal to a year's course) of credit may be waived, or completed one college course in mathematics, one in English and one in either U.S. History, a laboratory science, or a foreign language. You must pass these courses with a grade of C or better. Courses other than mathematics must be transferable to the University. The course in mathematics must complete a sequence of courses at least as advanced as the equivalent of two years of high school algebra (elementary and intermediate) or one year of algebra (elementary) and one year of high school geometry.

Applicants from Other Countries

The credentials of an applicant for admission from another country are evaluated in accordance with the general regulations governing admissions. An application, official certificates, and detailed transcripts of record should be submitted to the Office of Undergraduate Admissions early in the appropriate filing period (see the "Application for Admission" section which follows). Doing so will allow time for exchange of necessary correspondence and, if the applicant is admitted, will help in obtaining the necessary passport visa.

Proficiency in English

As an applicant from another country whose mother tongue is not English you may be admitted only after demonstrating a command of English sufficient to permit you to profit by instruction in the University. Your knowledge of English will be tested by an examination upon your arrival at the University. Admission of an applicant who fails to pass this examination will be deferred until proficiency in the use of English has been acquired. The student held for the English as a Second Language requirement who fails to take the test on the date specified will not be permitted to register for the quarter for which admission is approved. If you are an applicant from a non-English speaking country you are urged to take the Test of English as a Foreign Language as a preliminary means of testing your ability. Arrangements to take the test may be made by writing directly to TOEFL, Educational Testing Service, P.O. Box 899, Princeton, New Jersey 08540, U.S.A. Results of the test should be forwarded to the University.

Language Credit

As a student from a country where the mother tongue is not English you will be given college credit in your own language and its literature only for courses satisfactorily completed. Such credit will be allowed only for courses taken in your country at college level institutions, or for advanced level upper division or graduate courses taken in this University or in another English-speaking institution of approved standing.

Health Insurance

The University requires, as a condition of registration, that all foreign students attending UCLA on non-immigrant visas supply written proof of adequate health insurance to the Student Health Service annually at the beginning of the Fall Quarter. Additionally, all new and reentering foreign students are required to be cleared by Student Health for freedom from communicable disease. These students must have a chest x-ray performed at Student Health Service.

Engineering

A freshman applicant seeking a bachelor's degree in engineering, whose entire secondary schooling was outside the United States, must pass, with satisfactory scores, the College Entrance Examination Board Scholastic Aptitude Test (verbal and mathematics sections) and Achievement Examinations in English composition, physics and advanced mathematics, before a letter of admission to engineering can be issued. Arrangements to take the tests in another country should be made directly with the Educational Testing Service, P.O. Box 592, Princeton, New Jersey 08540, U.S.A. You should request that your scores for the tests be forwarded to the University.

Applying for Undergraduate Admission

An application form may be obtained at the Office of Undergraduate Admissions, 1147 Murphy Hall, University of California, Los Angeles 90024, in person or by mail.

The opening dates for filing applications for the year 1980- 1981 are as follows: Fall Quarter 1980, November 1, 1979; Winter Quarter 1981, July 1, 1980; Spring Quarter 1981, October 1, 1980. Applications for the Fall 1981 quarter should be filed during the month of November 1980.

A fee of $20 must accompany each application. For Fall Quarter, 1981, this fee has been increased to $25.

You are responsible for requesting the graduating high school (and each college attended if you apply in advanced standing) to send official transcripts of your record directly to the Office of Undergraduate Admissions.

If admitted, you must return a Statement of Intention to Register, a Statement of Legal Residence, together with a nonrefundable fee

of $50 which will be applied to the University Registration Fee, if you register in the quarter for which you applied. Registration materials will be prepared only after you submit these forms.

Subject A: English Composition

Every undergraduate entrant must demonstrate an acceptable ability in English composition. There are several ways in which this requirement may be met before the first quarter in residence (see Subject A: English Composition in the "academics undergraduate education" section of this Catalog). But students who have not already fulfilled the requirement must, during their first quarter, enroll in either English A or English 1. Assignment to one of these courses is determined by performance on the Subject A Placement Test.

Leaving UCLA

Transfer to other U.C. campuses

Undergraduate students currently registered on any campus of the University in a regular session (or those previously registered who have not since registered at any other school) may apply for transfer to another campus by filing an Intercampus Transfer Application on their present campus. This application must be obtained and filed at the Office of the Registrar, Information Window A, Murphy Hall. There is a $25 nonrefundable fee. The deadlines are the same as the admission applications deadlines given under the Admissions to the University section. Transcripts required for the processing of the application for transfer are provided without additional charge. For details regarding particular campus admission provisions, visit the Intercampus Transfer Clerk at the Registrar's Information Window A, in Murphy Hall.

Cancellation

Prior to the first day of classes, you may cancel registration by submitting a written notice, together with the current Registration Card and Student Identification Card to the Registrar's Office, 1134 Murphy Hall.

If you cancel registration prior to the first day of classes or withdraw within the course of a quarter you must file an Application for Readmission for the quarter in which you propose to return to the University provided a quarter—three months, including the period between the Spring and Fall quarters—has intervened since the last date of attendance. This application is necessary in order that the Registrar may be prepared to register you. The deadlines for filing applications for readmission will be found in the academic calendar in this catalog and in the quarterly Schedule of Classes.

Withdrawal

A student withdrawing from the University within the course of a quarter must file an acceptable Notice of Withdrawal. Failure to do so will result in nonpassing grades in all courses, thus jeopardizing your eligibility to re-enter the University of California or your admission by transfer to another institution. Forms containing complete instructions are issued at the office of the Dean of the student's College, School or Graduate Division. File the Notice of Withdrawal, Registration Card, and Photo ID card at your college (Letters & Science or Fine Arts students, for the withdrawal to take effect.) Engineering, Nursing and Public Health students, after securing proper clearances, file this form at the Registrar's Information Window "A", Murphy Hall. Failure to attend classes, neglect of courses or stopping payment on checks tendered for registration do not constitute notice of withdrawal.

Commencement

Commencement exercises honoring candidates for undergraduate and graduate degrees are held in mid-June—either one or two days following the end of final examinations. During the early part of Commencement Day, individual departments, schools, and colleges hold small, informal gatherings at which prizes and honors are awarded and students and their families meet faculty members. In mid-afternoon, all students, faculty, parents, and friends gather in Drake Track and Field Stadium for formal exercises and the conferring of degrees. This academic pageant is a colorful affair—planned by the Committee on Public Ceremonies—featuring music, degree banners, student speakers, and the wearing of gold fourrageres by undergraduate candidates who have achieved high academic distinction (upper 15 percent of the seniors graduating each quarter).

Diplomas are not distributed at Commencement. During the period between final checking of degrees and the distribution of diplomas, a Certificate of Completion is sent to every student entitled to receive a diploma. Recipients are notified when their diplomas are available at the Registrar's Office, Information Window "A," Murphy Hall. There is no diploma fee. Upon request, diplomas are sent to the student by certified mail, with a mailing charge of $3.00 ($6.00 abroad).

Transcript of Record

Upon formal application to the Registrar, you may have issued on your behalf transcripts of your record of work taken at UCLA in either regular or Summer Sessions. A fee* of $2 is charged for the first copy (and $1 for each additional copy ordered at the same time) of each transcript, undergraduate, graduate, or Summer Session. Transcripts required for the intercampus transfer of undergraduate students within the University are provided without charge.

*Fees are subject to change without notice.

Readmission

If you wish to return to the University after an absence of more than one calendar quarter (three months) you must file an Application for Readmission. During the academic year 1980-81 applications for readmission are required as follows:

For Fall Quarter, 1980. All students returning in the same status (graduate or undergraduate) who did not complete the Spring Quarter, 1980.

For Winter Quarter, 1981. All students returning in the same status (graduate or undergraduate) who were not registered in the Fall Quarter, 1980.

For Spring Quarter, 1981. All students returning in the same status, (graduate or undergraduate) who neither completed the Fall Quarter, 1980, nor were registered for the Winter Quarter, 1981.

Undergraduate students may obtain application forms from the Office of the Registrar, Window A, Murphy Hall. The completed application along with a $25 application fee (nonrefundable) and transcripts of records from other institutions, including University Extension, attended during their absence must be filed with the Registrar on or before August 1 for the Fall Quarter; November 15 for the Winter Quarter; February 15 for the Spring Quarter.

Registration

Registration is the payment of fees, enrollment in classes, and the filing of various informational forms. Your name is not entered on official rolls of the University unless the registration process is completed as published by the Registrar in the "Registration Circular" and the *Schedule of Classes*. Failure to complete and file all forms by established deadlines may delay or even prevent you from receiving credit for work undertaken.

Registration is divided into two equal, but separate processes. Registration materials (the "registration packet") are issued by the Registrar and include cards for payment of the quarterly fees and a study list card for requesting enrollment in classes. When both processes are completed, you are considered a duly registered and enrolled student for the quarter.

Registration by Mail

In advance of the quarter, the registration processes may be completed entirely through the mail. All eligible students are encouraged to register by mail. Currently registered students may obtain their "registration packet" for registration by mail at the time (approximately the fifth week of the preceding quarter) and place announced in the quarterly Schedule of Classes and on official campus bulletin boards. New and re-entering students eligible to register by mail (see calendar) will receive the "registration

packet" in the mail from the Registrar approximately six weeks before the quarter begins. Complete instructions and envelopes for return of the cards are included with the registration materials. Each student is responsible for purchasing the quarterly *Schedule of Classes*, available in the Students' Store on campus.

The Registrar and the Main Cashier process enrollment and fee payment separately—date of payment does not affect enrollment provided such date is "on time" as published in the *Schedule of Classes*. At the completion of the by mail process, materials are returned to all students who participated. Students who requested enrollment will receive the results of the enrollment processing (see Enrollment in Classes) while students who paid their quarterly fees will receive the valid Registration Card (proof of student status for University services). These separate mailings are made approximately ten days prior to the beginning of the quarter.

In Person

At the beginning of the quarter, in-person processing of fee payment and enrollment in classes is available for all students not processed by mail. Dates and location of registration in person processing are announced in the *Schedule of Classes*, the "Registration Circular," and on official campus bulletin boards. Students eligible to register by mail are not issued specific times for registration in person, but are advised to observe the registration time recommended in the Registrar's publications. By observing this suggested time schedule for reporting to register, you can complete the registration procedure with a minimal delay. New and re-entering students processed for registration in person will be issued an Appointment to Register in Person by the admitting (or readmitting) officer upon receipt of their Statement of Intention to Register and accompanying forms. The Appointment is your notice of the date, time, and location that the Registrar will be prepared to issue individualized materials for your registration process.

While you may use a combination of both processes (by mail/in person) to pay fees and enroll in classes, the University requires that the full amount of fees be paid by the Friday before instruction begins. If fees are not paid by that date, all course enrollment is dropped.

Any student allowed to register on or after the first day of instruction is subject to a late fee and may request classes only after payment of fees is completed. Late registration with payment of a late fee is accepted during the first ten days of classes; enrollment in classes, however, may be difficult. No student may register after the tenth day of classes without prior written approval of the academic dean and payment of all regular and late fees.

Enrollment

A student's name is entered on official rolls of the University only after the registration process is completed as published in the *Schedule of Classes*. This quarterly publication is available in June for the Fall Quarter, in November for Winter Quarter and in February for Spring Quarter at the Students' Store, Ackerman Union. It is available by mail; write to attn: Mail Out, ASUCLA Students' Store, 308 Westwood Plaza, Los Angeles, California 90024; include $1.50 in check or money order, payable to ASUCLA.

The *Schedule* lists courses, final examination groups, names of instructors, class times and meeting locations, a detailed calendar of deadlines, enrollment restrictions, samples of registration materials, and full instructions for registration (payment of fees and enrollment in classes). From the *Schedule* and with the aid of academic counseling, you can assemble a program of courses. Two or three alternate programs should be planned in case your first choice of courses is not available. You may not choose two courses in the same examination group and should not choose classes which conflict in the class meeting times. If conflicts are unavoidable, you should consult with the instructor of each course at the first meeting of the class.

Enrollment requests are processed by the Registrar's Office from the completed Study List Card contained in the "registration packet" issued to each prospective student.

All continuing students (who are eligible to register in the same status without filing applications for readmission) have the opportunity and are encouraged to request their classes by mail.

New and re-entering students who have completed the admission/readmission process by the eligibility date to register by mail (see calendar) will receive registration materials from the Registrar approximately six weeks prior to the beginning of their first quarter.

Results of enrollment by mail are printed on a Tentative Study List mailed by the Registrar approximately ten days prior to the beginning of the quarter.

For the convenience of undergraduates who wish to enroll in person at computer terminals, an appointment to enroll is printed on the tentative study list. This appointment should be kept only if you want to make changes in enrollment and must be shown with the valid current quarter "REG" card and UCLA student photo ID card. Students who did not participate in the by mail process and those eligible for in person processing will receive an enrollment appointment time as a part of the registration (fee payment) process.

Study List

Your Official Study List is the list of courses in which you are officially enrolled at the end of the second week of classes, at which time a copy is mailed to you. You are responsible for every course listed, and can receive no credit for courses not entered on it. Unapproved withdrawal from or neglect of a course entered on the study list will result in a failing grade.

Changes in the Official Study List require approval of the Dean of your College, School or Graduate Division. Forms for this purpose may be obtained at the office of your dean or department. The approved petition must be filed with the Registrar. There is a fee for such changes. See the academic calendar at the beginning of this catalog for the last day to add or drop courses or change grading basis.

Study List Limits

The minimal program for an undergraduate student to be considered full-time is three courses (12 units).

The normal program for an undergraduate student is four courses. A student on scholastic probation, except in the School of Engineering and Applied Science, is limited to a program of three courses each quarter.

Any course, such as Mathematics M or Music 4, which does not give full credit toward a degree, nevertheless displaces one course from your program. These courses are identified in the *Schedule of Classes*. All military science, and all repeated courses are to be counted in study list limits.

For students in good academic standing, undergraduate study lists may be presented as follows:

School of Engineering and Applied Science: within the limits prescribed in each individual case by the Dean or his representative. Students may not enroll in excess of 18 units per quarter unless an excess unit petition is approved in advance by the dean.

College of Fine Arts: three or four courses per quarter without special permission. After your first quarter, you may petition to carry a program of not more than five courses if you have an over-all grade-point average of 3.0 (B) and have attained at least a "B" average in the preceding quarter.

College of Letters and Science: three courses for students in the first quarter of the freshman year. All other students who have a "C" average or better and are not on probation may carry four courses without petition. After the first quarter, you may petition to enroll in as many as five courses if in the preceding term you attained at least a "B" average in a program of at least three courses included in the grade-point average. First-quarter transfer students from any other campus of the University may carry excess study lists on the same basis as students who have completed one or more terms on the Los Angeles campus.

School of Nursing: three courses. You must petition to enroll in more courses.

Concurrent Enrollment

Concurrent enrollment in resident courses and in courses in University Extension or another institution is permitted only when your entire program has received the approval of the proper dean or study-list officer and has been filed with the Registrar before the work is undertaken.

Special Studies 199 Courses

Senate regulations limit the undergraduate student to two course (8 units) of credit per quarter in special studies (199 courses). The total number of units allowed in such courses for a letter grade is 16. A separate petition is required for each enrollment in a special studies 199 course.

Credit by Examination

A student who has completed a minimum of 12 units of work at this University and is in good standing may petition to receive credit by examination in a course regularly offered by the University. You must satisfy conditions stated on the petition and make arrangements in advance both with the instructor who will give the examination and with the Dean of your College or School, from whom the required petition form may be secured. There is a $5.00 fee for each petition.

The results of such examinations are entered upon your record in the same manner as regular courses and corresponding grade points are assigned.

About Student Conduct

Most of this Catalog is devoted to the academic regulations which govern membership in the UCLA Community. But, in addition to these, your conduct as a student is also subject to standards of behavior consistent with the role of UCLA as an institution dedicated to the pursuit of knowledge.

Just as you are subject to the provisions of the California Criminal Code regardless of whether or not you are aware of each statute it contains, so, too, are you responsible for the provisions published in the *University of California Policies Applying to Campus Activities, Organizations, and Students (Parts A and B)* and *UCLA Activity Guidelines*—and to the standards of conduct spelled out in these booklets.

You can get a copy of each of these by contacting the Dean of Students, 2224 Murphy Hall, or the Campus Programs and Activities Office, 161 Kerckhoff Hall.

The Dean of Students Office plays a central role in the interpretation, administration, and application of the standards of citizenship which you are expected to follow at UCLA.

Since UCLA is large and diversified, the *UCLA Daily Bruin* is another source of general information. "Official Notices" run twice a week (Monday and Thursday), and you are held responsible for the information in them.

Disclosure of Student Records

Pursuant to the Federal Family Educational Rights and Privacy Act of 1974 and the University of California Policies Applying to the Disclosure of Information from Student Records, students at UCLA have the right: 1) to inspect and review records pertaining to themselves in their capacity as students, except as the right may be waived or qualified under the Federal Act and the University Policies; 2) to have withheld from disclosure, absent their prior consent for release, personally identifiable information from their student records, except as provided by the Federal Act and the University Policies; 3) to inspect records maintained by the University of disclosures of personally identifiable information from their student records; 4) to seek correction of their student records through a request to amend the records and subsequently through a hearing; 5) to file complaints with the Department of Health, Education, and Welfare regarding alleged violations of the rights accorded them by the Federal Act.

The University may publish, without the student's prior consent, items in the category of "public information", which are name, address, telephone number, date and place of birth, major field of study, dates of attendance, degrees and honors received, the most recent previous educational institution attended, participation in officially recognized activities, including but not limited to intercollegiate athletics, and the name, weight and height of participants on intercollegiate athletic teams. Students who do not wish all or part of the items of "public information" disclosed may, with respect to address and telephone number, so indicate on the Student Data card in the registration packet, and with respect to the other items of information, by filling out a "Decline to Release Public Information Form" available in the Registrar's Office, 1105 Murphy Hall.

Student records which are the subject of the Federal Act and the University Policies may be maintained in a wide variety of offices. Students are referred to the UCLA Directory, pages 1 through 21, which lists all the offices which may maintain student records, together with their campus address, telephone number and unit head. Students have the right to inspect their student records in any such office subject to the terms of the Federal Act and the University Policies.

A copy of the Federal Act, the University Policies and the UCLA Directory may be inspected in, and information concerning these matters and the students' hearing rights may be obtained from the Office of Assistant Chancellor-Legal Coordinator, 2248 Murphy Hall.

Change of Address/Name

The Registrar should be notified as soon as possible of any change in address that occurs after the return of the student data card (from the registration packet). Forms for this purpose are available at the Registrar's Office, Information Window "A", or 1134 Murphy Hall. Veterans receiving benefits must also notify the Office of Special Services.

In case of change of name, forms available at the Registrar's Office, Information Window "A", should be filed before the beginning of the next quarter. Since changes require approximately three months to be processed, you should continue to use your former name until notified that the records reflect the change.

Need to Know More?

You will find a full discussion of academic regulations as they relate to your specific program in the sections of this catalog concerned with undergraduate education.

Courses

The following symbols are used in the departmental faculty rosters and course listings.

Faculty Roster Symbols

[1]In Residence summer only.

[2]In Residence fall only.

[3]In Residence winter only.

[4]In Residence spring only.

[5]On leave summer.

[6]On leave fall.

[7]On leave winter.

[8]On leave spring.

[9]On leave summer and fall.

[10]On leave fall and winter.

[11]On leave fall and spring.

[12]On leave winter and spring.

[13]On leave spring and summer.

[14] On leave.

[15]Recalled to active service.

[16]Member of Brain Research Institute.

[17]Member of the Institute of Geophysics and Planetary Physics.

[18]Joint Appointment.

Course Listing Symbols

*[1]Not offered 1980-1981.

*[2]Given alternate years, not offered 1980-1981.

*[3]Offered as schedule and staff allow.

*[4]Not offered every year.

*[5]Given alternate years; offered 1980-1981.

*[6]Offered Fall 1980 only.

*[7]Offered Winter 1981 only.

*[8] Offered Spring 1981 only.

*[9]Offered on request depending upon enrollment.

*[10]Consult department for details.

*[11]Not applicable to M.A. degree.

*[12]Native speakers not normally eligible.

*[13] A and B offered in alternate years.

*[14]Enrollment is limited. Consult Office of Undergraduate Affairs.

*[15]Determined on basis of change in course content.

*[16]Only course C to be offered.

*[17]Courses A and B to be offered.

*[18]Open only to Engineering Executive Program students.

*[19]Not offered Fall, 1980.

*[20]Not offered Winter, 1981.

*[21]Not offered Spring, 1981.

*[22]This course may not be applied toward the requirements of any graduate degree offered by SEAS in the School of Engineering and Applied Science.

Undergraduate Courses

Undergraduate courses are classified as lower division and upper division. Lower division courses (numbered 1-99) are open to freshmen and sophomores, and are also open to upper division students but without upper division credit. Upper division courses (numbered 100-199) are ordinarily open to students who have completed at least one lower division course in the given subject, or two years of college work. Courses in the 100 series may be offered in partial satisfaction of the requirements for the master's degree by a student registered in graduate status if taken with the approval of the major department.

Courses numbered 198 are structured special studies courses for groups. They are not listed in the catalog because they vary in content and are offered irregularly.

Graduate Courses

Graduate courses (numbered 200-299, 400-499, 500-599) are normally open only to students admitted in graduate status. Under special circumstances some courses in the 200-299 series are open to undergraduate enrollment with proper departmental and instructor consent. For information and complete descriptions of all graduate level courses, please refer to the Graduate Catalog.

Professional Courses

Teacher-training courses (numbered 300-399) are highly specialized courses dealing with methods of teaching, and are acceptable toward the bachelor's degrees only within the limitations prescribed by the various colleges or schools. Please refer to the Graduate Catalog for descriptions of these courses.

University Extension Courses

University of California Extension courses bearing numbers 1-199, prefixed by X, B, XD, XI, XL, XR, XSB, XSC, XSD yield credit toward the bachelor's degree. They are rated with respect to the general and specific requirements for the degree, on the same basis as courses taken in residence at collegiate institutions of approved standing. Concurrent enrollment in resident courses and in University Extension courses (or courses at another institution) taken with a view to credit toward a degree is permitted only when the entire program has been approved in advance by the Dean of the Student's College.

Course Listings

Each course in the following listings by departments, as in the samples that follow, has the credit value of a full course unless otherwise noted. Thus a listing, **Mathematics 11A-11B-11C, Calculus and Analytic Geometry.,** indicates three full courses, 11A, 11B, and 11C; while a listing, **Dance, 114A-114F, Advanced Contemporary Dance, (½ course each),** indicates six half courses, 114A, 114B, 114C, 114D, 114E, and 114F.

Where noted, credit for a specific course is dependent upon completion of a subsequent course.

A capital "M" before the initial number of a course indicates multiple course listings in two or more different departments.

AEROSPACE STUDIES

(Department Office, 251 Dodd Hall)

Ralph E. Olson, M.B.A., *Lt. Colonel, Professor of Aerospace Studies (Chairman of the Department).*

Edward P. Westemeier, Ph.D., *Major, Assistant Professor of Aerospace Studies.*

Richard T. Dineen, M.Ed., *Captain, Assistant Professor of Aerospace Studies.*

John C. Croston, M.B.A., *Captain, Assistant Professor of Aerospace Studies.*

Michael S. Beno, M.A., *Captain, Assistant Adjunct Professor.*

Air Force Reserve Officers Training Corps (Air Force ROTC)

Air Force ROTC provides selected students the opportunity to develop those attributes essential to their progressive advancement to positions of high responsibility as commissioned officers in the U.S. Air Force. This includes understanding Air Force history, doctrine, and operating principles, demonstrating ability to apply modern principles of management and human relations in the Air Force environment, and mastery of leadership theory and techniques.

Scholarship Program

Scholarships are available to qualified cadets in both the four-year and two-year programs. Scholarships cover full tuition, laboratory expenses, incidental fees, allowances for books, and a stipend of $100.00 per month.

Four-Year Program

The four-year program is open to beginning freshmen. It consists of an initial two-year General Military Course (GMC), described below, followed by a two-year Professional Officer Course (POC), described under "Two-Year Program."

Leadership Laboratory

All Air Force ROTC students must enroll each quarter in the Leadership Laboratory as published in the UCLA Schedule of Classes.

Freshman Year

1A-1B-1C. U.S. Military Forces in the Contemporary World. (¼ course each) Prerequisite: 1A is prerequisite to 1B and 1B is prerequisite to 1C. This sequence of courses examines the role of the Air Force in the contemporary world by studying the total force structure, strategic offensive and defensive forces, general purpose forces, and aerospace support forces. Capt. Beno

Sophomore Year

20A-20B-20C. The Developmental Growth of Air Power. (¼ course each) Lecture-seminar, one hour. Prerequisite: courses 1A, 1B, 1C. These courses examine the development of air power over the past sixty years. They trace the development of various concepts of employment of air power and focus upon factors which have prompted research and technological change. Key events and elements in the history of air power are stressed, especially where these provide significant examples of the impact of air power on strategic thought.
Capt. Croston

Two-Year Program

The two-year Air Force ROTC program is offered to accommodate those students who have attained at least junior standing and have two years remaining in the University, either as an undergraduate or graduate student. A prerequisite for students entering this program is successful completion of a six-week field training course on an Air Force base during the summer preceding their enrollment in the program.

Students interested in this program must make application to the Professor of Aerospace Studies during the fall quarter preceding the six-week summer field training course. Students attending the six-week summer field training are provided meals, quarters, travel expenses, and are paid approximately $625.00. Students enrolled in the POC receive $100.00 per month retainer fee for 20 consecutive months.

Data concerning physical and age qualifications for flying and navigator training and for nonflying applicants is the same as for four-year program.

Four-Week Field Training Course

Students who complete GMC, and wish to enter POC, attend a four-week field training course, the summer following GMC completion. At field training, students are provided meals, quarters, clothing, travel expenses, and are paid about $410.00 to cover incidental expenses. Subjects covered at field training, include junior officer training, aircraft and aircrew orientation, career orientation, survival training, base functions, Air Force environment, and physical training.

Field Training Course Staff

130A-130B-130C. Concepts of Air Force Management and Leadership. (¾ course each) Lecture-seminar, three hours. Prerequisite: 130A is prerequisite to 130B and 130B is prerequisite to 130C. This is a three part course. An analysis of the principles and functions of management, leadership and organizational behavior with special reference to the Air Force as a model. The course includes problem solving, information systems and models,

quantitative methods and computer systems. Group discussions, case studies, films and role-playing will be used as teaching devices. Communicative skills will be strengthened through preparation of written reports and oral presentations.
Lt. Col. Olson

140A. Military Judicial System. (¾ course) Seminar, three hours. Prerequisite: course 130C. An introduction to the foundation of the military profession, and the Military Judicial System. Oral and written student reports will be expected.
Maj. Westemeier

140B. The Military in American Society. (¾ course) Seminar, three hours. Prerequisite: course 140A. Examines forces and issues in the social context that affect the functioning of the U.S. military. Influence of social norms, societal pressures and cultural factors on the functioning of the military profession in the United States is analyzed. Communication techniques are strengthened and communicative abilities are oriented to Air Force requirements through preparation of papers, classroom presentations and discussion.
Maj. Westemeier

140C. American Defense Policy. (¾ course) Seminar, three hours. Prerequisite: course 140B. Examines U.S. security policy with respect to factors that influence its formulation, the bureaucracy that formulates and implements it, and the forms it has taken and may take in the future. Communication techniques are strengthened, and communication abilities are oriented to Air Force requirements through preparation of papers and classroom presentation and discussion. Maj. Westemeier

AFRICAN AREA STUDIES (INTERDEPARTMENTAL)

Special Program in African Studies

For details of the program in African Studies taken in conjunction with a bachelor's degree, see Interdisciplinary Majors in Area Studies.

ANATOMY

(Department Office, 73-235 Health Sciences Center)

The department of Anatomy does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

Medical History Division

Upper Division Courses

107A-107B. Historical Development of Medical Sciences. Three hours per week in the winter and spring quarters. The major contributions of medicine and medical personalities from earliest times. 107A concerns the contributions of medicine and medical personalities from earliest times through 1650; 107B deals with the subject in the period from 1650 through the 19th century. Illustrated lectures, class discussion, and required readings from selected texts.

M108A-108B. History of Biological Sciences. (Same as History M106E-106F.) Three hours per week in the fall and winter quarters. Prerequisite: upper division standing. M108A: Biological sciences from ancient times to the early nineteenth century. M108B: Biological sciences from the early nineteenth century to the mid-twentieth century.
Mr. Frank

110. Medicine and Society in 20th Century America. Three hours per week in the spring quarter. Prerequisite: consent of instructor. Preference given to Health Sciences students. Reading and conference course on social aspects of the growth of medical care, education, and research in the United States since the late nineteenth century.
Mr. Frank

M197. The Biomedical Sciences in the 19th Century. (Same as History M106G.) Three hours per week in the spring quarter. Readings and discussions. Prerequisite: consent of instructor. Topics in the growth of the biomedical sciences and their institutions in Europe and America, from the French Revolution to approximately 1900.
Mr. Frank

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

ANESTHESIOLOGY

The Department of Anesthesiology does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

ANTHROPOLOGY

(Department Office, 341 Haines Hall)

Walter R. Goldschmidt, Ph.D., *Professor of Anthropology.*
James N. Hill, Ph.D., *Professor of Anthropology.*
Jacques Maquet, Ph.D., *Professor of Anthropology (Chairman of the Department).*
Clement W. Meighan, Ph.D., *Professor of Anthropology.*
Michael Moerman, Ph.D., *Professor of Anthropology.*
Sally F. Moore, Ph.D., *Professor of Anthropology.*
Henry B. Nicholson, Ph.D., *Professor of Anthropology.*
Wendell H. Oswalt, Ph.D., *Professor of Anthropology.*
Hiroshi Wagatsuma, Ph.D., *Professor of Anthropology.*
Johannes Wilbert, Ph.D., *Professor of Anthropology.*
Bobby J. Williams, Ph.D., *Professor of Anthropology.*
Ralph L. Beals, Ph.D., *Emeritus Professor of Anthropology.*
Joseph B. Birdsell, Ph.D., *Emeritus Professor of Anthropology.*
Hilda Kuper, Ph.D., *Emeritus Professor of Anthropology.*
William A. Lessa, Ph.D., *Emeritus Professor of Anthropology.*
Christopher Donnan, Ph.D., *Associate Professor of Anthropology.*
Allen W. Johnson, Ph.D., *Associate Professor of Anthropology.*
Donald G. Lindburg, Ph.D., *Associate Professor of Anthropology.*
Claudia Mitchell-Kernan, Ph.D., *Associate Professor of Anthropology.*
Philip L. Newman, Ph.D., *Associate Professor of Anthropology.*
Dwight Read, Ph.D., *Associate Professor of Anthropology.*
James R. Sackett, Ph.D., *Associate Professor of Anthropology.*
Robert Byles, Ph.D., *Assistant Professor of Anthropology.*
Timothy Earle, Ph.D., *Assistant Professor of Anthropology.*
Gail E. Kennedy, Ph.D., *Assistant Professor of Anthropology.*
Paul Kroskrity, Ph.D., *Assistant Professor of Anthropology.*
Eugene L. Mendonsa, Ph.D., *Assistant Professor of Anthropology.*
Robert J. Russell, Ph.D., *Assistant Professor of Anthropology.*
Carlos G. Velez, Ph.D., *Assistant Professor of Anthropology.*

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C. Rainer Berger, Ph.D., *Professor of Anthropology, Geography and Geophysics.*
William O. Bright, Ph.D., *Professor of Linguistics and Anthropology.*
Pamela J. Brink, Ph.D., *Associate Professor, School of Nursing and Anthropology.*
Bernard G. Campbell, Ph.D., *Adjunct Professor of Anthropology.*
Brian Dillon, Ph.D., *Lecturer in Anthropology.*
Robert B. Edgerton, Ph.D., *Professor of Anthropology and Psychiatry.*
Marija Gimbutas, Ph.D., *Professor of European Archaeology.*
John G. Kennedy, Ph.D., *Associate Professor of Psychiatry and Anthropology in Residence.*
L.L. Langness, Ph.D., *Professor of Anthropology and Psychiatry in Residence.*
Merrick Posnansky, Ph.D., *Professor of History and Anthropology.*
Douglas Price-Williams, Ph.D., *Professor of Anthropology and Psychiatry in Residence.*
Ralph H. Turner, Ph.D., *Professor of Sociology and Anthropology.*
Thomas S. Weisner, Ph.D., *Assistant Professor of Anthropology and Psychiatry.*

Undergraduate Program

The undergraduate program in anthropology is intended to convey an informed appreciation of the varieties of human culture, development and experience.

The faculty represents interests in archaeology, physical anthropology and sociocultural anthropology, and these traditional divisions are crosscut by interests in ecology and social adaptation, individual behavior, and social organization in relation to cognition and communication.

In order to take full advantage of the departmental program, the student is urged to plan his program around his own interests with the help of a counselor, to include not only required courses, but also independent studies and challenging and useful courses in related fields.

The department has a regular faculty advisor to aid students in dealing with routine requirements. In addition, undergraduates are encouraged to make the personal acquaintance of any faculty members whose work is of interest to them for specialized guidance. Undergraduate students may also consult representatives of the Anthropology Undergraduate Student Association for additional guidance.

The undergraduate and graduate student associations are integral to the departmental program and organization. Through them students have the opportunity to take a direct part in departmental administration, select speakers and programs, and produce publications including student evaluations of all courses taught in the department. Undergraduate and graduate students are encouraged to acquaint themselves with their respective organizations and with the departmental library, museum, reading and typing rooms, and the Archaeological Survey program.

Preparation for the Major

*Required:*Anthropology 1A-1B, 5A, 5C. All courses taken in preparation for the major must be taken on a letter grade basis.

Foreign Language

The department requires a demonstration of proficiency in one foreign language to insure that its graduates have the communication skills and cultural insights offered by such proficiency. Any spoken language is acceptable as is any extinct language with a substantial body of literature. Proficiency is equated with the skill level to be attained through course five in a language. Specifically, this requirement may be met in one of two ways. (1) By completion of the fifth quarter of one foreign language or (2) by a demonstration of foreign language proficiency at level 5. Courses taken to satisfy the foreign language requirement may be taken on a Pass/Not Pass basis and may be applied toward satisfaction of the College of Letters and Science breadth requirements. For additional information, consult the department counselor.

The Major

Required:(1) ten upper division courses or their equivalent including at least one course from 6 of the 8 groups listed in the catalog under Anthropology; and (2) four upper division courses from one or more of the following departments: economics, geography, history linguistics, political science, psychology, sociology. Two of the four courses required outside of the department may be upper division CED courses. (Courses from other departments related to the student's specialization may be applied by petition.) All of the courses taken to satisfy major requirements must be taken on a letter grade basis.

Students intending to continue for a graduate degree are advised to take Anthropology 182A-182B, at least one course in field training (Group VII) and Anthropology 173A-173B or its equivalent.

Students must also meet the requirements of the University and the College of Letters and Science for graduation.

Lower Division Courses

1A-1B. The Principles of Human Evolution. Lecture, three hours; discussion, one hour. Course 1A is prerequisite to course 1B. Students cannot receive credit for both Anthropology 1A-1B and

NOTE: For key to symbols, see pages 65 and 66

Anthropology 11. Human population biology in the conceptual framework of evolutionary processes. 1A emphasizes the genetic basis of evolution, population biology and diversity among living populations. 1B emphasizes comparative primate behavior, structural anatomy and the fossil record. These courses are required as preparation for the major. The Staff

5A-5C. Introduction to Cultural Anthropology.

5A. Principles of Cultural Anthropology. Lecture, three hours; discussion section, one hour. Course 5A is prerequisite to course 5C. Students cannot receive credit for both Anthropology 5A and Anthropology 22. The character of culture and nature of social behavior as developed through anthropological study of contemporary peoples. The Staff

5C. Culture History. Lecture, three hours; discussion section, one hour. The development of culture from its first beginnings to the advent of writing as developed through archaeological investigation. The Staff

11. The Evolution of Man. Lecture, three hours; discussion, one hour. Students cannot receive credit for 11 and 1A-1B. This course does not satisfy major requirements. A one-quarter course on the evolution of man. Emphasis is on evolutionary processes and the evolutionary past of the human species. The Staff

22. General Cultural Anthropology. Lecture, three hours; discussion section, one hour. This course is designed for non-majors. Students cannot receive credit both for Anthropology 22 and 5A. An introduction to the cultural understanding of human behavior designed for students who do not plan further work in anthropology. Stress is placed on those concepts and theories that are applicable to the everyday life and professional activities in the modern world. Examples of institutions and individual behavior of modern America are counterpointed against studies of primitive life. The Staff

Upper Division Courses

Courses 1A-1B, 5A, 5C or upper division standing are prerequisite to all upper division courses, except as otherwise stated. All upper division courses with letter designations (A, B, etc.) may be taken independently except as otherwise stated.

GROUP I. ETHNOGRAPHY

This group contains courses of a descriptive nature where the intent is to survey the cultural patterns of an ethnic group either diachronically or synchronically.

102. World Ethnography. Diversity of cultural types and commonalities of cultural systems documented through print and film. The course will also be concerned with criteria of ethnographic adequacy in each medium. The Staff

Area Courses. (Anthropology 103A-Anthropology 110.) Prerequisite: courses 5A, 5C, 22 or 102. Each course is a survey of native peoples and cultures in designated areas of the world. The survey will include discussions of technological, social and ideational patterns among the ethnic groups of the area. Special ethnological and theoretical problems will be covered as appropriate. Outside reading and papers may be required.

103A-103C. Peoples of Asia.

103A. South Asia: Buddhist Civilization. A study of Buddhism as basis of one of the main cultural streams of South Asia; its evolution from a system of wisdom to a religion, a way of life, and a national polity; historical background including early antecedents in India. Mr. Maquet

103B. Southeast Asia. Mr. Moerman

103C. Japan (I) Introductory. Prerequisites: upper division standing or consent of instructor. An introduction into contemporary Japanese culture: family life, social organizations, religion, values and norms. Mr. Wagatsuma

103D. Japan (II) Advanced. Prerequisite: Japan I. An advanced level discussion of the selected subjects in contemporary Japan origins of people and language, problems of "modernization" and "Westernization", psychological characteristics of the people, social deviances. Mr. Wagatsuma

103E. Culture and Society in the Himalayas. Prerequisite: course 22 or consent of instructor. The course will provide an overview of culture and society among the diverse peoples of the Himalayas. Topics to be covered include: environment and economic adaptation, politics in traditional isolation and within the framework of recent national integration, kinship, forms of marriage and the status of women, religion and the social order in a Hindu-Buddhist culture contact zone and current problems of modernization. The Staff

105A-105C. Peoples of Latin America.

105A. Peoples of South America. Mr. Wilbert

105B. Peoples of Middle America. The Staff

105C. Latin American Societies. The Staff

106A-106F. Peoples of North America.

106A. Peoples of California: Ethnography. Mr. Meighan

106B. Peoples of California: Prehistory. Mr. Meighan

106C. Peoples of North America. Mr. Oswalt

106D-106E. Archaeology of North America. Prerequisite: courses 5A-5C or course 22 or consent of the instructor. Course 106D is prerequisite to 106E. Prehistory of the North American Indians; the evolution of Indian societies from earliest times to (and including) contemporary Indians; approaches and methods of American Archaeology. Mr. Hill

106F. Eskimos. Prerequisites: upper division standing. This is a survey on historical, ethnographic, and contemporary Eskimo life stressing their importance in anthropological theory and practice. Particular emphasis is placed in Eskimo origins, technology, and modern administration. Mr. Oswalt

106G. The Comparative Ethnography of the Hispanic Peoples in North America. Prerequisites: course 5A or 22 or consent of instructor—primarily for upper division students. A comparative ethnography of the social and cultural adaptations of the Hispanic Peoples in North America including Mexican/Chicanos, Cubans, and Puerto Ricans, their respective social organization, economic and political institutions, sacred and secular belief systems, and expressive cultures. Each group is presented as adapting within culture complexes closely related to historical developments in the United States and thus considered as areal cultures. Linkages for each cultural group transcend national boundaries and national space so that direct and indirect historical interaction links all groups, making events in any part relevant to the Hispanic areal culture as a whole. Mr. Velez

106H-106I. Peoples of Pueblo Southwest. Prerequisites: one of the following: Anthropology 5A-5C, Anthropology 22, upper division standing or consent of instructor. Course 106H or consent of instructor is prerequisite to 106I. A survey of ethnographic and ethnohistorical research on the historic Pueblo Indians—Hopi, Zuni, Tanoan, and Keresan—and their immediate neighbors. 106H introduces the history, languages, social organization, and traditional cultural systems of the various groups. 106I focuses on selected problems in Pueblo ethnology and considers the Pueblo Southwest as an important locus for anthropological theory and method. Mr. Kroskrity

107A-107B. Introduction to African Societies and Modes of Thought.

107A. Simple Societies of Africa. Prerequisite: upper division standing or consent of instructor. A comparative analysis of African societies and systems of thought. Social, economic, kinship, political, religious and medical institutions in societies which, in the past, lacked centralized political institutions. Students will be introduced to the classic ethnographies and current research among these African peoples in the modern world. Mr. Mendonsa, Ms. Moore

107B. Complex Societies of Africa. Prerequisite: upper division standing or consent of instructor. A comparative analysis of African societies and systems of thought. Social, economic, kinship, political, religious and medical institutions in societies which had indigenous centralized political institutions e.g., chiefdoms, kingdoms, states. Students will be introduced to the classic ethnographies and current research among these peoples in modern Africa, including urban centers. Mr. Mendonsa, Ms. Moore

108. Peoples of the Pacific. Mr. Newman

109. Old Stone Age Archaeology. (Formerly numbered 109A-109B.) Prerequisite: course 5C or consent of the instructor. The development of Palcolithic and Mesolithic cultures of Europe, Africa, and Asia, emphasizing the ordering and interpretation of archaeological data. Pleistocene geology and chronology, the relationship between human, cultural and biological evolution. Mr. Sackett

110. Peoples of the Middle East: Arab Culture. Prerequisite: course 5A, consent of instructor. This course will delineate the area of "Arab Peoples" through an examination of their historical background, their language, and their belief system. It will attempt to uncover the structural principles shared by the Arab people of North Africa and Southwest Asia which underlie Arab culture. The Staff

GROUP II. DEVELOPMENT OF MAN AND CULTURE

This group contains two kinds of courses in terms of method: Those courses primarily historical in orientation where the concern is to present sequences of change in the development of man and culture, and those courses concerned with general theories of change.

111A. Fossil Man and His Culture. Prerequisites: Anthropology 1A, 1B recommended; Anthropology 111A also recommended before 111B and 111C. They are not required. Introduction to method and theory in paleoanthropology. Primate evolution, Cretaceous through the Miocene. Ms. Kennedy

111B. The Australopithecines. Prerequisites: 1A, 1B, 111A recommended. Consent of instructor required. The morphology, ecology and behavior of the genus *Australopithecus.* The history of their discoveries and their place in human evolution will also be discussed. Ms. Kennedy

111C. Evolution of the Genus *Homo.* Prerequisites: Anthropology 1A, 1B, 111A, and 111B recommended. Consent of instructor required. The origin and evolution of the genus *Homo,* including archaic sapients and the neanderthals. The morphology, ecology and behavior of these groups will be included. The course will end with the appearance of modern man. Ms. Kennedy

112. Hunting and Gathering Societies. Prerequisite: course 5A. A survey will be made of hunting and gathering societies. Their distinctive features will be examined from both an ecological and cultural viewpoint. The possibility of developing a general framework for synthesizing these two viewpoints will be discussed. This synthesis will be used as a basis for illustrating the relevance of hunting and gathering societies to an understanding of complex societies. Mr. Read

113. Civilizations of Subsaharan Africa. Prerequisite: upper division standing or consent of instructor. A comprehensive overview of the sociocultural world of subsaharan Africa. This world is interpreted as a broad cultural unit with its specific African configurations, and as a plurality of civilizations, each based on a particular association of an environment (dry savanna, grass-land, equatorial forest, highlands) with a dominant technique of acquisition/production (hunting/gather-

ing, cereals growing, cattle-herding, commercial crops, industry). Mr. Maquet

119. Culture Stability and Culture Change. Problems of cultural and social change, including the impact of western civilization on native societies. Mr. Mendonsa

122A. Comparative Society. Prerequisite: courses 5A-5C, or Sociology 1 or consent of the instructor. The general principles of the organization of society; the relation of these to the technological complexity and ecological conditions of the culture; the principles of evolutionary development of social systems. The Staff

122C. Technology and Environment. Significance of material culture in archaeology and ethnology; problems of invention and the acceptance of innovations; the ecological and sociological concomitants of technological systems; selected problems in material culture. The Staff

123. Origins of Old World Civilization. Prerequisite: course 5C or course 22. A survey of the prehistoric foundations and cultural development of primary civilizations in the Near East, Europe and Asia as revealed by archaeology; theories of cultural evolution and diffusion based upon archaeological discovery. Mr. Sackett

123C. Ancient Civilizations of Western Middle America (Nahuatl Sphere). Prerequisite: course 5A-5C or course 22. Pre-Hispanic and Conquest period native cultures of Western Middle America as revealed by archaeology and early colonial writings in Spanish and Indian languages. Toltec-Aztec and Mixteca civilizations and their predecessors, with emphasis on socio-political systems, economic patterns, religion, and esthetic and intellectual achievements. Mr. Nicholson

123D. Ancient Civilizations of Eastern Middle America (Maya Sphere). Prerequisite: courses 5A-5C or course 22, Pre-Hispanic and Conquest period native cultures of eastern Middle America as revealed by archaeology and early colonial writings in Spanish and Indian languages. Lowland and Highland Maya civilizations and their predecessors with emphasis on socio-political systems, economic patterns, religion, and esthetic and intellectual achievements. Mr. Nicholson

123E. Ancient Civilizations of Andean South America. Prerequisite: courses 5A-5C or course 22. Pre-Hispanic and Conquest period native cultures of Andean South America as revealed by archaeology and early Spanish writings. The Inca and their predecessors in Peru, with emphasis on socio-political systems, economic patterns, religion, and esthetic and intellectual achievements. Mr. Donnan

GROUP III. BIOLOGY AND CULTURE

An examination of the biological factors in human variability, both behavioral and physical, and the operation of biological factors within a cultural setting.

130A-130B. The Genetics of Human Diversity. Course 130A is prerequisite to 130B. No credit will be allowed for course 130A without course 130B. A general survey of the techniques and problems of racial classification. Emphasis is on the genetic approach. The methods of modern classical genetics and population genetics are applied to human evolution. The Staff

131. Evolution and Biology of Human Behavior. A comparative survey of the behavior patterns of preliterate and Paleolithic peoples and those of non-human primates. The biological variables fundamental to human and prehuman behavior will be assessed with regard to theories on the evolution of human culture. The Staff

132. Comparative Morpho-Physiology of the Higher Primates. Lecture, two hours; laboratory, three hours. The comparative anatomy of monkeys, apes and man will be surveyed. The methods and data prerequisite to the interpretation of the primate fossil records will be discussed. The Staff

133A-133B. Primate Behavior Non-Human to Human. (2 courses) Prerequisites: upper division standing. Course 133A is prerequisite to 133B. Review of primate behavior as known from laboratory and field studies. Stresses theoretical issues and the evolution of casual processes, structure, and function of animal behavior with special reference to nonhuman primates. Human behavior will be discussed as the product of such evolutionary processes. This course is offered on an In Progress basis. Credit is given only after completion of the full 2-quarter sequence. The Staff

134. Biology, Society and Culture. Prerequisite: course 1B. An investigation of the interaction between human biology and human behavior. Particularly emphasized are the influences of human biological evolution on human cultural evolution and human cultural evolution on human biological evolution. Mr. Byles

135A. Primate Evolution. Prerequisite: upper division standing/consent of instructor. A survey of the primate paleontological and evolutionary record, encompassing prosimians, New and Old World monkeys and hominoids. Attendant aspects of paleoecology and behavior will be discussed. Mr. Russell

135B. Introduction to Primate Anatomy (1½ courses) Lecture, two hours, laboratory, four hours. Prerequisites: 135A or permission of the instructor. Lab: Anatomical terms and principles of dissection of a non-human primate cadaver and with the study of osteological material. Lecture: Introduce basic developmental anatomy; the evolution of gross structure; allometry morphological and psychological scaling; and, the morphological correlates of posture, locomotion and diet. Mr. Russell

135C. Introduction to the Comparative Morphology and Physiology of Primates (1½ courses) Lecture, two hours; laboratory, four hours. Prerequisite: 135A and B or consent of instructor. This series will cover the functional, evolutionary, and taxonomic studies of primate anatomy and physiology. Lectures: Compare functional systems (e.g. locomotion) through the primate series. Lab: Students will dissect regions of several unrelated specimens and perform their own comparative analysis. Mr. Russell

GROUP IV. SOCIAL SYSTEMATICS

Courses which focus on the interpretation or explanation of some type of code, symbol system, or behavior pattern and where the central analytic constructs are symbols, personality processes or interactional dynamics, and where theory is concerned with the relationship between the individual and his interactional setting. Anthropology students may also fulfill Group IV requirements by taking Linguistics 100.

138. Symbolic Systems. Prerequisite: upper division standing or consent of instructor. An analysis of the anthropological research and theory on the cultural systems of thought, behavior, and communication expressed in a symbolic mode (as distinguished from the discursive, instrumental, and casual modes). Methods for the study of symbolic meanings, including the experiential approach. Mr. Maquet

139. Comparative Minority Relations. Prerequisites: courses 5A-5C. Comparative study of minority relations, social discrimination and prejudice. The emphasis will be both on cross-cultural perspectives and on psycho-cultural analysis. The cases will be taken from the U.S., Japan, India, and other areas. The factors responsible for discrimination and the cultural-psychological consequences of class, caste or minority status of the individuals will be discussed. Mr. Velez

140. Comparative Religion. A survey of various methodologies in the comparative study of religious ideologies and action systems. These include the understanding of particular religions through descriptive and structural approaches, and the identification of social and psychological factors which may account for variation in religious systems cross-culturally. Mr. Newman

141. Social and Psychological Aspects of Myth and Ritual. This course is aimed at understanding the social and psychological significance of myth, ritual and symbolism, with particular attention given to rituals concerned with folk psychotherapies, possession and trace phenomena. Mr. Mendonsa

142. Comparative Study of Socialization. Introduction to ethnographic data on socialization and child training. Theories explaining cross-cultural variability in socialization practices. Current methods and research topics in the field. Mr. Weisner

143. The Individual in Culture. Prerequisite: upper division anthropology, sociology, or psychology students. The course considers the balance for freedom and determinism for individuals and societies in the interrelation of personality, social structure and culture. It surveys the nature and limits of human plasticity; the variability and uniformity of personality within and between cultures; the relation of normal and abnormal, conformity and deviance. Mr. Edgerton

144. Aesthetic Anthropology. Lecture, three hours. Prerequisite: upper division standing. Elaboration of a crosscultural notion of visual aesthetic phenomena that meets the requirements of anthropological research. Aesthetic phenomena as cultural: their integration in a cultural system; their relationships with other elements in the interplay of social forces. Mr. Maquet

145A. Introduction to Psychological Anthropology. Prerequisites: upper division standing or consent of instructor. 145A is prerequisite to 145B. An historical approach to culture-and-personality studies and psychological anthropology. These sub-disciplines will be described and analyzed as they relate to the broader history of anthropology and to developments in other fields, especially sociology, psychology, and psychoanalysis. The work of Durkheim, Benedict, Mead, Sapir, Malinowski, Roheim, Freud, Kardiner, Whiting, and Bateson will be discussed. The Staff

145B. Introduction to Psychological Anthropology. Prerequisites: course 145A. A survey and critical analysis of the theories of methods in use in contemporary psychological anthropology. These methods and theories are examined as they are employed in the crosscultural study of the following topics: socialization and development, pathology and deviance, fantasy, religion and altered states of consciousness, cognition, perception and motivation, communication and language, psychobiology and evolution. Finally, theories and methods in psychological anthropology are compared with developments in socio-cultural anthropology as a whole. The Staff

M146. Language in Culture. (Same as Linguistics M146.) Prerequisites: Linguistics 1 or Anthropology 177A-177B. The study of language as an aspect of culture; the relation of habitual thought and behavior to language; the problem of meaning. For course M146, graduate students in anthropology who propose to specialize in linguistics must take Linguistics 100 plus graduate courses in linguistics chosen from Linguistics 200A-205B and 210A-210B in consultation with an adviser; or they may take the M.A. in linguistics together with the Ph.D. in anthropology. Mr. Kroskrity

148. Personality and Social Systems. Prerequisite: upper division standing or consent of instructor. The course explores the relationships between individual and social-cultural systems. Major topics: (the study of personality in culture); cultural influences on motor behavior and psychological reaction patterns; cultural influences on cognition, perception, and thought process; socialization in Culture I (child rearing); socialization in Culture II (moral development and values); expressive symbolic behavior (ritual, myth, art,

NOTE: For key to symbols, see pages 65 and 66

folklore, dreams, projective tests); social deviance (anti-social behavior, mental illness, suicide).
Mr. Wagatsuma

149A-149B. Human Social Ethology. Prerequisite: Permission (consent of instructor). Two quarter course. Grade of IP for first quarter. Each student will videotape a scene of naturally occurring human interaction to be analyzed (in lab. sessions) by the class and instructor for the interactive tasks, resources, and accomplishments displayed. Students will be able to set individual hours of laboratory participation within the time-block set for the class. Mr. Moerman

GROUP V. SOCIAL SYSTEMATICS II

Courses which focus on the explanation of some type of institution or social system, where the central analytic constructs are groups, roles, norms, and societies, and where theory is concerned with the development and maintenance of human groups or networks.

150A-150B. Social Anthropology.

150A. History of Social Anthropology. Prerequisites: course 5A-5C or course 22 or Sociology 1 or 101 and upper division standing in Anthropology or Sociology. A systematic survey of the development of social anthropology in France and Britain from the Enlightenment to the present. Reviews major early concepts of French Sociology and British structuralist-functionalism and current concerns in social theory.
Mr. Mendonsa, Ms. Moore

150B. Social Organization. Prerequisites: course 5A-5C or course 22 or Sociology 1 or 101 and upper division standing in Anthropology and Sociology. 150A would also be advisable. Formal presentation of the methods, aims and conceptual framework of social anthropology. Analysis of thought and behavior within systems of social relationships. Emphasis on structural-functional approach and the process of social change.
Mr. Mendonsa, Ms. Moore

151. Kinship and Social Organization. Prerequisite: Anthropology major, upper division. Kinship is surveyed as a systematic study in anthropology with a focus on the basic theoretical issues. Kinship analysis is presented as a tool in research. The Staff

152. Traditional Political Systems. Prerequisite: course 122A or Sociology 101 or consent of the instructor. Political organization in pre-industrial societies of varying degrees of complexity. Law and the maintenance of order; corporate groups; ideology. The relations of political to other institutions of society. The Staff

153A-153B. Production and Exchange in Traditional Societies. A review of economic and ecological approaches to studying organization of production and exchange. Economic life is viewed from three perspectives: adaptation, decision-making and social structure. Comparative theories are discussed in the content of ethnographic evidence from a wide variety of cultural systems. 153A: Non-stratified Societies; 153B: Stratified Societies.
Mr. Earle, Mr. Johnson

155. Illness in Non-Western Societies. Prerequisites: course 5A-5C or course 22 or Sociology 1 or 101 and upper division standing, or consent of instructor. An analysis of the cultural modes of thought and social structures associated with illness in non-western societies. The emphasis will be upon the social roles involved in the diagnosis and curing. Mr. Mendonsa

157. Intentional Communities. Prerequisite: upper division standing or consent of instructor. Communes and monasteries, ashram and kibbutz are voluntarily joined societal units, offering complete life-styles perceived as alternatives to the mainstream cultures, and stressing the affective involvement of the members. Questions such as the following will be discussed in a comparative perspective: institutional goals stated in the community's "charter"; system of acquisition or production; internal organization; ideational configurations; individual experience; sociological and psychological functions; criteria of success and failure; subculture and counterculture.
Mr. Maquet

M158. Health in Culture and Society. (Same as Nursing M168.) Prerequisite: upper division standing. An examination of the theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitude and belief systems of the participants. Emphasis will be placed upon interaction networks in health care systems.
Ms. Brink

M159. Social Networks and Corporate Groups. (Same as Law M151.) Prerequisite: upper division standing or consent of instructor. Two approaches to the analysis of social organization are examined; their uses and limitations in the study of modern societies, in the interpretation of ethnographic materials, and in analyzing processual sequences. Social, political, economic implications explored. Uses in field work discussed. Students will have an opportunity to complete small field projects, and will reanalyze library materials. Ms. Moore

GROUP VI. CONTEMPORARY PROBLEMS

This group includes those courses (taught from any point of view and with any subject matter) which are concerned with application of anthropological techniques and methods to problems of contemporary interest in our own society or which arise as a product of the contact between our society and others.

160. Urban Anthropology. Prerequisites: Open to upper-division majors in social sciences, and others by consent of the instructor. A survey of urbanization throughout the world, with emphasis on urban adaptation of rural migrants. Special focus on the problems of rural-urban migration of ethnic minority groups and subsequent adaptation of them within the United States explored in terms of the methods and perspectives of anthropology.
The Staff

161. Development Anthropology. Prerequisites: courses 5A-5C and upper division standing or consent of the instructor. Comparative study of the peasantization of tribal peoples, the proletarization of peasants, and the urbanization of ruralities. Particular emphasis on the relation between national and international, and localized sociocultural systems; the theory of social movements. Alternative theoretical constructs will be critically discussed. Mr. Mendonsa

162. Contemporary American Indian Problems. Contemporary problems of the American Indian both on and off the reservation. Topics will include self-determination, land claims, activism, urban Indians, and role of the Bureau of Indian Affairs.
The Staff

163. Women in Culture and Society. Prerequisite: course 5A or 22. A systematic approach to the study of sex roles from an anthropological perspective. A critical review of relevant theoretical issues supported by ethnographic material from traditional cultures and contemporary American culture.
The Staff

M164. The Afro-American Experience in the United States. (Same as Afro-American Studies M164.) Prerequisite: consent of instructor. This course aims to promote understanding of contemporary sociocultural forms among Afro-Americans in the United States by presenting a comparative and diachronic perspective on the Afro-American experience in the new world. We will be concerned with the utilization of Anthropological concepts and methods in understanding the origins and maintenance of particular patterns of adaptation among Black Americans. Ms. Mitchell–Kernan

165. Population Change: Anthropological Implications. Lecture, 3 hours. Prerequisites: Anthropology 5A and 22. The course examines the dynamic interaction between population precesses, to illustrate how particular socio-cultural systems are both outcomes of and determinative of demographic regimes. The principal theories of population growth are also considered in this context as are problematic issues in the formulation of population policy. The Staff

GROUP VII. TECHNIQUES AND METHODS

Techniques are thought of as procedures in gathering or manipulating data; methods are thought of as concerned with problems of inference and validation. The following courses deal with one or both concerns. They are intended for majors and graduate students in anthropology. Anthropology students may also fulfill Group VII requirements by taking Linguistics 110 and Indo-European Studies 149.

170A-170B-170C. Field Training. Prerequisite: consent of instructor.

170A. Archaeology. Introduction to archaeological problems, theories, methods, and data analysis.
The Staff

170B. Ethnology. Training in ethnographic field methods. Execution of individual and group ethnographic field research projects. The Staff

170C. Physical Anthropology. Training in basic field methods; anthropometry, taxonomy, laboratory methods, and bio-statistics. The Staff

171A-171B-171C. Laboratory Methods in Physical Anthropology. Prerequisite: courses 1A-1B, restriction to majors only and graduate students; consent of instructor. Laboratory methodology and analysis of human variation on skeletal material (171A) and on living populations (171B) and bio-chemical methods (171C). The Staff

172. Methods and Techniques of Ethnohistory. Introduction to the problems and procedures of extracting cultural data from documentary sources and their interpretation and analysis. The relevant documentary sources of various New World regions will be selected as case histories to illustrate more concretely the problems and challenges in this major area of anthropological concern.
Mr. Nicholson

173A-173B. Quantitative Methods and Models in Anthropology. Prerequisite: Upper division standing. This two-quarter course is designed to provide an introduction to quantitative methods of data analysis and the modeling of. social-cultural systems. 173A will emphasize methods of data analysis and cover topics such as data description, sampling, estimation procedures and hypothesis testing. 173B will cover topics from statistical modeling (e.g. linear regression models) and deterministic modeling, (e.g. network models, kinship structures, systems, models.) Mr. Read

174. Laboratory Methods in Technology and Invention. Prerequisite: course 122C and consent of the instructor. Intensive experimentation in the technology of nonliterate people. Mr. Donnan

175A. Strategy of Archaeology. Prerequisite: course 5C or consent of instructor. An introduction to problem formulation, theory and method in archaeology, with an emphasis on the development of research designs. The focus is on how archaeological research is conceived and planned, with consideration of differing viewpoints and their usefulness. A scientific approach is taken and consideration is given to the relevance of archaeology to explaining variability and change in the adaptations of human populations. Mr. Hill

175B. Archaeological Research Techniques. Prerequisite: course 5C or consent of instructor. An introduction to the techniques of discovery and analysis that archaeologists have found useful in research. Special attention is given to sampling techniques in survey and excavation, the techniques of survey and excavation, classification and typology, problems in dating, locational analysis, the description of settlement systems, and the techniques for measuring parameters of prehistoric

demography, diet, specialization, exchange and warfare. Attention is also given to techniques for describing and explaining change. Mr. Hill

M175C. Dating Techniques in Environmental Sciences and Archaeology. (Same as Geography M178.) Prerequisite: consent of the instructor. Introduction to scientific dating methods such as radiocarbon dating, radiation damage methods, biological dating techniques and magnetic dating, and applications in environmental sciences, archaeology, and physical anthropology. Mr. Berger

175E. Laboratory Analysis in Archaeology. Lecture, two hours; laboratory, four hours. Prerequisite: consent of the instructor. Description and classification of archaeological collections cataloging, typology, documentation. Preparation of archaeological reports for publication. Mr. Meighan

M176. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Psychiatry M112 and Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed. Mr. Gallimore, Mr. Weisner

177A. Field Methods in Linguistic Anthropology: Practical Phonetics. Practice in elicitation from informants for the purposes of analysis of phonological systems and development of practical transcription, as a preliminary to learning to speak the native language and to the recording of ethnographic materials in native language. No previous experience in linguistics is assumed. Mr. Kroskrity

177B. Field Methods in Linguistics Anthropology: Descriptive Semantics. Prerequisite: course 177A, or equivalent experience. The acquisition of techniques for conducting queries in the target language. The query techniques are intended to facilitate insight into semantic structure through examination of lexical and morphological classes. Morphological, syntactic, and lexical phenomena that occur in languages in relation to meaning. Use of eliciting procedures as supplemental, to other investigative techniques. Practice with informants. Mr. Kroskrity

178A. Museum Studies. Prerequisite: consent of instructor. Method and theory of museum operation. Acquisition, accession, storage, photography, conservation and exhibition are discussed and demonstrated. Museum research, publication, and teaching as well as museum administration and funding are analyzed. Lectures and demonstrations are structured to illustrate how the various aspects of museum operation are interrelated. Mr. Donnan and the Museum Staff

178B. Museum Studies. Prerequisites: course 178A and consent of instructor. Two areas of museum operation are selected by the students from those discussed and demonstrated in Anthropology 178A. The student is then required to develop expertise in these areas through a combination of library research and a series of assignments carried out in the museum. Mr. Donnan and the Museum Staff

178C. Museum Studies. Prerequisites: course 178A-178B and consent of instructor. One area of museum operation is selected by the student from those demonstrated in Anthropology 178A. The student is then required to develop expertise in this area through a combination of library research and a series of assignments carried out in the museum. Mr. Donnan and the Museum Staff

179. Ethnography on Film. Intensive examination of filmed and written ethnographies of a wide range of the worlds peoples with the purposes of: a) comparing visual with written data and evidences and b) developing criteria for adequate written and film ethnography. Mr. Moerman

180. The Ethnography of Communication: Introduction and Practicum. Prerequisites: upper division standing or consent of instructor. The course has two inter-related objectives: 1) to introduce students to the ethnography of communication—the description and analysis of situated communicative behavior—and the sociocultural knowledge which it reflects and 2) to train students to recognize, describe, and analyse the relevant linguistic, proxemic and kinesic aspects of face to face interaction. Mr. Kroskrity

GROUP VIII. ANTHROPOLOGY AS A PROFESSION

This group contains historical surveys of anthropology or its subfields and courses concerned with professional preparation.

182A-182B. History of Anthropology. Course 182A is prerequisite to 182B. This course is intended primarily for upper division anthropology majors and graduate students. A general survey of the development of anthropology within the western academic tradition from Herodotus to the present. Reviews attitudes towards non-western peoples and the major early concepts and developments that have led to current anthropology theories and methods. Also deals with the institutional growth and development of the profession. Mr. Langness

183. History of Archaeology. The intellectual history of archaeology from the ancient world to the present. Although each of its major traditions is reviewed, particular emphasis is given to those branches of archaeology that have evolved during the last century within the discipline of anthropology. Mr. Sackett

184. History of Human Evolutionary Theory. The men, the events, and the spirit of the time which mark man's attempts to understand his origins and diversity. Mr. Williams

SPECIAL COURSES

197B. Specialized Studies in Literature: Caribbean Literature. (Same as English 180X.) This course proposes to provide students with an introduction to the English literature of the Afro-Caribbean. Mr. Baugh (W)

199. Special Studies in Anthropology. (¼ to 2 courses) Prerequisite: consent of the instructor. Two courses of 199 may be applied to the ten courses required for the major. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

APPLIED LINGUISTICS (INTERDEPARTMENTAL)

(Program Office, 3306 Rolfe Hall)

The department of Applied Linguistics does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

ARCHAEOLOGY (INTERDEPARTMENTAL)

An interdepartmental committee administers graduate degree programs leading to the M.A. and Ph.D. in Archaeology, in addition to the individual departmental programs in which archaeological specialization is possible. There is no undergraduate program in Archaeology leading to a B.A. degree.

For detailed information outlining the degrees offered by this department, please refer to the Graduate Catalog.

ARCHITECTURE AND URBAN PLANNING

The department of Architecture and Urban Planning does not offer an undergraduate degree. For detailed information on degrees offered by this department, please consult the Graduate Catalog.

ART

(Department Office, 1300 Dickson Art Center)

Samuel Amato, B.F.A., *Professor of Art.*
Alexander Badawy, B.Arch., D.I.A., Ph.D., *Professor of Art.*
E. Maurice Bloch, Ph.D., *Professor of Art and Curator of Prints.*
Albert Boime, Ph.D., *Professor of Art.*
William J. Brice, *Professor of Art.*
Raymond B. Brown, M.A., *Professor of Art.*
Jack B. Carter, M.A., *Professor of Art.*
Susan B. Downey, Ph.D., *Professor of Art.*
Elliot J. Elgart, M.F.A., *Professor of Art.*
Robert F. Heinecken, M.A., *Professor of Art.*
Thomas Jennings, M.A., *Professor of Art.*
J. Bernard Kester, M.A., *Professor of Art.*
Velizar Mihich (Vasa), *Professor of Art.*
Lee Mullican, *Professor of Art.*
John A. Neuhart, *Professor of Art.*
Gordon M. Nunes, M.A., *Professor of Art.*
Carlo Pedretti, M.A., *Professor of Art.*
Jan Stussy, M.F.A., *Professor of Art.*
Otto-Karl Werckmeister, Ph.D., *Professor of Art.*
Laura F. Andreson, M.A., *Emeritus Professor of Art.*
Karl M. Birkmeyer, Ph.D., *Emeritus Professor of Art.*
Archine V. Fetty, M.A., *Emeritus Professor of Art.*
Lester D. Longman, Ph.D., L.H.D., D.F.A., *Emeritus Professor of Art.*
Katharina Otto-Dorn, Ph.D., *Emeritus Professor of Art.*
Josephine P. Reps, *Emeritus Professor of Art.*
Frederick S. Wight, M.A., *Emeritus Professor of Art.*
Karl E. With, Ph.D., D.F.A., *Emeritus Professor of Art.*
Mitsuru Kataoka, M.A., *Associate Professor of Art.*
David M. Kunzle, Ph.D., *Associate Professor of Art.*
Donald F. McCallum, Ph.D., *Associate Professor of Art.*
Arnold Rubin, Ph.D., *Associate Professor of Art.*
Nathan Shapira, Dottore in Architettura, *Associate Professor of Art.*
James R. Valerio, M.F.A., *Associate Professor of Art.*
James W. Bassler, M.A., *Assistant Professor of Art.*
Cornelia K. Breitenbach, M.F.A., *Assistant Professor of Art.*
William C. Brown, M.A., *Assistant Professor of Art.*
Ioli Kalavrezou-Maxeiner, Ph.D., *Assistant Professor of Art.*
Cecelia F. Klein, Ph.D., *Assistant Professor of Art.*
Deborah Klimburg-Salter, Ph.D., *Assistant Professor of Art.*
Alice E. McCloskey, M.A., *Assistant Professor of Art.*
Martin J. Powers, Ph.D., *Assistant Professor of Art.*
Adrian Saxe, B.F.A., *Assistant Professor of Art.*
Madeleine Sunkees, B.Ed., *Assistant Professor of Art, Emeritus.*

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Donald Roberts, *Lecturer in Art.*
Robert Wark, Ph.D., *Lecturer in Art.*
Jean Weisz, M.A., *Lecturer in Art.*

Note: Information in this section is subject to change. As this Catalog went to press, substantial changes were being considered in major and course requirements. Consult the Art Department for further details.

It is recommended that each student majoring in art have each quarter's program approved by a departmental adviser.

The departmental major offered in the College of Fine Arts leads to the degree of Bachelor of Arts with the opportunity to specialize in one of three areas: (1) Art History, (2) Painting/Sculpture/Graphic Arts, (3) Design.

Preparation for the Major

Art History. Six courses selected from courses 50, 51, 52, 53, 54, 55 and 56.

Painting/Sculpture/Graphic Arts. Courses 10A, 10B, 20A, 20B, 25; and two courses selected from 50, 51, 52, 53, 54, 55, 56.

Design. Courses 31A, 31B, 32A, 32B, 34A, 34B; and three courses selected from 50, 51, 52, 53, 54, 55, 56.

NOTE: For key to symbols, see pages 65 and 66

The Major

Art History. (12 courses upper division art history required.)

I. A total of nine courses from the following nine areas: at least three courses in one area for the concentration, at least one course each in four of the remaining areas, and two additional courses from any of the nine areas.

1. 101A, 101B, 101C, 101D.
2. 103A, 103B, 103C, 103D, 103E.
3. 104B, 104C, 104D.
4. 105A, 105B, 105C, 105D, 105E.
5. 106A, 106B, 106C, 108A, 108B, 109A, 109B, 109C, 109D, 120A, 121A.
6. 110A, 110B, 110C, 110D, 110E, 120B, 120C, 121B.
7. 112A, 112B, 112C.
8. 114A, 114B, 114C, 114D, 115A, 115B, 115C.
9. 117A, 117B, 117C, 118A, 118B, 118C, 118D, 119A, 119B.

II. Three courses of art history electives which may include Classics 151ABC, Art 125, 197, 199 (design or studio courses do not apply as electives.)

In addition to the 12 courses (48 units) of upper division art history, three upper division courses from other departments related to the area of concentration are to be selected in consultation with a faculty adviser.

Three quarters of one foreign language, or the equivalent. The language should be in relation to the concentration area and is in addition to the foreign language which is part of the General College requirements.

Painting/Sculpture/Graphic Arts. A minimum of 14 upper division courses selected in consultation with a painting/sculpture/graphic arts adviser including one course each in courses 130, 132, 133, 135, 137, 140, 145 and 147; two courses selected from courses 101-122 and four courses of art electives.

Design. A minimum of 12 upper division courses selected in consultation with an adviser including eight courses from 161A-172B; at least one course from 192-193 and three courses of art electives.

Note: Check the Schedule of Classes for courses restricted to majors only.

Lower Division Courses

Painting/Sculpture/Graphic Arts courses are supervised by the following faculty, augmented by visiting staff: Amato, Brice, Elgart, Mullican, Nunes, Stussy and Valerio.

10A. Drawing. Studio, eight hours. Beginning course in drawing. Fundamentals of line, tone and composition as they relate to perception. Problems in sculptural form, chiaroscuro and spatial projection in a variety of drawing media. Analysis and investigation of traditional and contemporary artistic expression and concepts.

10B. Drawing. Studio, eight hours. Prerequisite: course 10A. Beginning course in figure drawing. Continuation of 10A. Application of drawing principles to human form with reference to anatomical structure. Analysis and investigation of traditional and contemporary artistic expression and concepts.

20A. Painting. Studio, eight hours. Prerequisites: 10A and 10B. Beginning course in painting. Preparation of painting surfaces and painting media. Problems in color, form and composition with stress on interpretation and expression. Analysis and investigation of traditional and contemporary artistic expression and concepts.

20B. Painting. Studio, eight hours. Prerequisite: course 20A. Continuation of 20A. Increased analysis and exploration of traditional and contemporary expression in both painting and non-object art forms.

25. Sculpture. Studio, eight hours. Beginning course in sculpture. Studio work in plaster, clay, concrete, wood, stone, metal and plastics. Lectures on technical and aesthetic principles of traditional and contemporary sculpture with emphasis on the student's individual direction. Illustrated with slides and film.

30A. Introduction to Design and Technology. Lecture, three hours; discussion, one hour. Understanding the design process with emphasis on development of visual awareness; a study of technological, economic, environmental, and cultural factors influencing the design of objects. Open to non-majors, and available to Art majors for credit.
The Design Staff

31A. Fundamentals of Design. Lecture, two hours; laboratory, four hours. Exploration of color in theory and practice. Development and articulation of sensory concepts. May be taken concurrently with 32A. Not open for credit for those who have had Art 150A. Mr. Vasa in charge

31B. Fundamentals of Design. Lecture, two hours; laboratory, four hours. Interrelation of three dimensional form concepts as a foundation for creativity; origination and solution of problems. May be taken concurrently with 32B. Not open for credit for those who have had Art 150B.
Mr. Vasa in charge

32A-32B. Visual Presentation. Demonstration, discussion and laboratory, eight hours. 32A is prerequisite to 32B. Translation of perception through delineation, drawing, and other descriptive media. May be taken concurrently with Art 31A-31B. Not open for credit for those who have had 153A or 153B respectively. Mr. Vasa in charge

34A-34B. History of Design. Lecture, three hours; discussion, one hour. 34A is prerequisite to 34B. Analysis of significant concepts of form in relation to social, technological, and historical developments. Not open for credit for those who have had 154A or 154B respectively. The Design Staff

50. Ancient Art. Lecture, three hours; quiz, one hour. Open to Freshmen and to students who have not had credit for former 1A or 100A. Prehistoric, Egyptian, Mesopotamian, Aegean, Greek, Hellenistic and Roman art and architecture.
Ms. Downey

51. Medieval Art. Lecture, three hours; quiz, one hour. Open to Freshmen and students who have not had credit for former 1B or 100B. Early Christian, Byzantine, Islamic, Carolingian, Ottomian, Romanesque, and Gothic art and architecture.
Ms. Kalavrezou–Maxeiner, Mr. Werckmeister

52. Renaissance Art. Lecture, three hours; quiz, one hour. Open to Freshmen and students who have not had credit for former 1B or 100B. Art and architecture from 1400 to 1600 in Italy, Flanders, Germany, France, and Spain. Ms. Weisz

53. Baroque Art. Lecture, three hours; quiz, one hour. Open to Freshmen and students who have not had credit for former 1C or 100C. Art and architecture from 1600 to 1800 in Italy, France, Netherlands, Germany, Spain, England and the United States. Ms. Weisz

54. Modern Art. Lecture, three hours; quiz, one hour. Open to Freshmen and students who have not had credit for former 1C or 100C. Art and architecture from 1800 to the present in Europe and the United States. Mr. Boime, Mr. Kunzle

55. Africa, Oceania, and Native America. Lecture, three hours; quiz, one hour. Comparative approach, emphasizing economic, cultural, and historical aspects of selected artistic traditions which developed outside the spheres of influence of the major European and Asiatic civilizations.
Ms. Klein, Mr. Rubin

56. Asian Art. Lecture, three hours; discussion, one hour. A survey of the major artistic monuments of the Indo-Iranian, South-east and Central Asian and the East Asian cultures, concentrating upon formal and iconographical problems, as well as the social and political conditions under which artworks were patronized and produced.
Ms. Klimburg–Salter, Mr. Powers

Upper Division Courses

HISTORY AND THEORY OF ART

101A. Egyptian Art and Archaeology. Lecture three hours. A study of architecture, sculpture, painting, and minor arts during the predynastic period and Old Kingdom. Mr. Badawy

101B. Egyptian Art and Archaeology. Lecture three hours. A study of architecture, sculpture, painting, and minor arts during the First Intermediate Period, Middle Kingdom, and Second Intermediate Period. Mr. Badawy

101C. Egyptian Art and Archaeology. Lecture three hours. A study of architecture, sculpture, painting, and minor arts during the Empire (or New Kingdom). Mr. Badawy

102. Art of the Ancient Near East. (Formerly numbered 101D.) A study of architecture, sculpture, painting, and minor arts in Mesopotamia, Asia Minor, North Syria, Phoenicia, Palestine, Persia and Cyprus from the origins to the 5th century B.C. Not open to students who have had credit for 101D.
Mr. Badawy

103A. Greek Art. Lecture three hours. Prerequisite: course 50. A survey of the art and architecture of Greece from the archaic period through the 5th century B.C. Ms. Downey

103B. Hellenistic Art. Lecture, three hours. Prerequisites: courses 50 and 103A. The art and architecture of Greece from the fourth century B.C. through the first century B.C. Ms. Downey

103C. Roman Art. Lecture, three hours. Prerequisite: course 50. The art and architecture of Rome and its Empire from ca. 300 B.C. to A.D. 300.
Ms. Downey

103D. Etruscan Art. Lecture, three hours. Prerequisite: course 50. The arts of the Italic peninsula from ca. 1000 B.C. to the end of the Roman Republic. Ms. Downey

103E. Late Roman Art. Lecture, three hours. Prerequisites: course 50, course 103C. The art of the Roman Empire from the second through the fourth centuries A.D.
Ms. Downey, Ms. Kalavrezou–Maxeiner

104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages. Lecture, three hours. Prerequisites: course 104B for course 104C; course 104C for 104D.

105A. Early Christian Art. Lecture, three hours. Prerequisite: course 51 or consent of the instructor. The origins and development of the architecture, sculpture, and painting of early Christianity, to the Iconoclastic controversy. (Not open to students who have had credit for 105A.)
Ms. Kalavrezou–Maxeiner

105B. Early Medieval Art. Lecture, three hours. Prerequisite: course 51 or consent of the instructor. Art and architecture of Western Europe from the Migration period until 1000 A.D.
Mr. Werckmeister

105C. Romanesque Art. Prerequisite: course 51. Art and architecture of Western Europe in the 11th and 12th centuries. Mr. Werckmeister

105D. Gothic Art. Lecture, three hours. Prerequisite: course 51. Art and architecture of Europe in the 13th century. Mr. Werckmeister

105E. Byzantine Art. Lecture, three hours. Prerequisite: course 51 or consent of instructor. The theory and development of Byzantine Art from the Iconoclastic controversy to 1453, and the diffusion of Byzantine Art in Armenia, Georgia, the Caucasus, and Russia. Not open to students who have received credit for Art 105A prior to Spring 1972. Ms. Kalavrezou–Maxeiner

106A. Italian Art of the Trecento. Lecture, three hours. Prerequisite: course 52 or consent of instructor. Art and architecture of the 14th century.

106B. Italian Art of the Quattrocento. Lecture, three hours. Prerequisite: course 52. Art and architecture of the 15th century.
Mr. Pedretti, Ms. Weisz

106C. Italian Art of the Cinquecento. Lecture three hours. Prerequisite: course 52. Art and architecture of the 16th century. Mr. Pedretti, Ms. Weisz

108A. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 52. Painting and Sculpture in the Northern Renaissance.

108B. Northern Renaissance Art. Lecture, three hours. Prerequisite: course 108A. Painting and Sculpture in the Northern Renaissance.

109A. Baroque Art. Lecture, three hours. Prerequisite: course 53. Art and architecture of Italy and Spain, 16th to late 17th century. Mr. Pedretti, Ms. Weisz

109B. Baroque Art. Lecture, three hours. Prerequisite: course 109A. Art and architecture of Northern Europe, 16th to late 17th century. Mr. Kunzle

109C. European Art of the 18th Century. Lecture, three hours. Prerequisite: course 53. Painting, architecture and sculpture of the 18th century will be examined in the light of political and intellectual developments. Special emphasis will be given to the effect of the rise of democratic institutions, especially the French Revolution. Mr. Kunzle

109D. Art and Architecture of Georgian England. Lecture, three hours. Mr. Wark

110A. European Art of the 19th Century. Lecture, three hours. Prerequisite: course 54. Neoclassicism and Romanticism, with emphasis upon France – the development and influence of David, Ingres and Delacroix. Mr. Kunzle

110B. European Art of the 19th Century: Realism and Impressionism. Lecture, three hours. Prerequisite: course 54. An inquiry into the problem of realism with emphasis on French Art, but including developments in England and Germany. Mr. Kunzle

110C. European Art of the 19th and 20th Century: Post Impressionism to Surrealism. Lecture, three hours. Prerequisite: course 54. A study of the major developments in Modern Art, 1880's-1930, including Seurat, Cezanne, Gauguin, Van Gogh, Art Nouveau, Fauvism, German Expressionism. Mr. Boime, Mr. Kunzle

110D. Contemporary Art. Lecture, three hours. Prerequisite: course 54. European and American art since World War II. Mr. Kunzle

110E. Political Perspectives on Contemporary Art (Post World War II). Prerequisites: Course 54. Includes vanguard painting in the U.S. (Picasso, Abstract Expressionism and Pop Art, etc.), and the popular media of posters, comic strips and murals, all of which will be analyzed according to the dominant values under capitalism: alienation, consumerism, racism, imperialism and sexism. Antidotal emphasis on protest art and women's art in the U.S., and the art of the socialist cultures of Cuba since 1959 and Chile, 1970-73. Mr. Kunzle

112A. American Art. Lecture, three hours. Architecture in the United States from the Colonial period to the 19th century. Mr. Bloch

112B. American Art. Lecture, three hours. Painting and sculpture in the United States from the Colonial period to the 19th century. Mr. Bloch

112C. American Art. Lecture, three hours. Art and architecture in the United States in the 20th century. Mr. Bloch

114A. The Early Art of India. Lecture, three hours. Prerequisite: not open to Freshmen. Survey of Indian Art from the Indus Valley cultures to the 10th century. Emphasis will be given to the Buddhist and Hindu backgrounds of the arts. Ms. Klimburg–Salter

114B. Chinese Art. Lecture, three hours. Not open to Freshmen. Survey of the arts of China from the Neolithic times to the 18th century. The various arts will be related to the developing historical background of the country. Mr. Powers

114C. Japanese Art. Lecture, three hours. Not open to Freshmen. Japanese art from its beginning in prehistory through the 19th century. Emphasis will be placed on the development of Buddhist art and its relationship with the culture. Mr. McCallum

114D. The Later Art of India. Lecture, three hours. Prerequisite: course 114A or consent of instructor. Survey of Indian Art from the 10th century to the 19th century. The decline of Buddhist Art, the last efflorescence of Hindu architecture, Muslim painting and architecture, and Rajput painting. Ms. Klimburg–Salter

115A. Advanced Indian Art. Lecture, three hours. Prerequisite: course 114A. Study in Indian sculpture and architecture. Ms. Klimburg–Salter

115B. Advanced Chinese Art. Lecture, three hours. Prerequisite: course 114B. Study in Chinese painting and sculpture. Mr. Powers

115C. Advanced Japanese Art. Lecture, three hours. Prerequisite: course 114C. Study in Japanese painting and sculpture. Mr. McCallum

117A. Advanced Studies in Pre-Columbian Art: Mexico. Lecture, three hours. Prerequisite: course 118B or consent of the instructor. A study of the art of selected cultures of northern Mesoamerica from ca. 1200 B.C. to the Conquest, with an emphasis on historical and iconographic problems. Ms. Klein

117B. Advanced Studies in Pre-Columbian Art: Central America. Lecture, three hours. Prerequisite: course 118B or consent of the instructor. A study of the art of selected cultures of southern Mesoamerica and the remainder of Central America, from ca. 2000 B.C. to the Conquest, with particular emphasis on the history and iconography of the art of the Maya. Ms. Klein

117C. Advanced Studies in Pre-Columbian Art: The Andes. Lecture, three hours. Prerequisite: course 118B or consent of the instructor. A study of the art of selected cultures of Colombia, Ecuador, Peru, and Bolivia, from ca. 4000 B.C. to the Conquest, with particular emphasis on the history and iconography of the art of Peru. Ms. Klein

118A. The Arts of Oceania. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. Survey of the arts of the major island groupings of the Pacific, emphasizing style-regions and broad historical relationships. Ms. Klein, Mr. Rubin

118B. The Arts of Pre-Columbian America. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. Survey of the sequence of cultures which developed in the area between (and including) Mexico and Peru, from ca. 1000 B.C. until the conquest. Ms. Klein

118C. The Arts of Sub-Saharan Africa. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. The early arts of Nigeria and a selection of other traditions, emphasizing sculpture. Mr. Rubin

118D. The Arts of Native North America. Lecture, three hours. Prerequisite: course 55 or consent of the instructor. Survey of painting, sculpture, and other arts, from the Eskimo to the peoples of the Caribbean and the Southwestern United States. Ms. Klein, Mr. Rubin

119A. Advanced Studies in African Art: Western Africa. Lecture, three hours. Prerequisites: course 118C or consent of the instructor. Graduate students in Art History may receive credit toward M.A. and Ph.D. requirements. Consideration of the network of stylistic, historical, and cultural relationships existing among the peoples of the upper Niger River Valley and adjacent portions of the Western Guinea Coast. Mr. Rubin

119B. Advanced Studies in African Art: Central Africa. Lecture, three hours. Prerequisites: course 118C or consent of the instructor. Graduate students in Art History may receive credit toward M.A. and Ph.D. requirements. Northern and eastern Nigeria, Cameroun, and the Ogowe River Basin. Mr. Rubin

120A. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts, from the 15th century to the early 16th century. Mr. Bloch

120B. History of Prints. Lecture, three hours. Development of style and techniques/of expression in the graphic arts from the 16th to the early 19th century. Mr. Bloch

120C. History of Prints. Lecture, three hours. Development of style and techniques of expression in the graphic arts of the latter 19th and 20th century. Mr. Bloch

121A. Critical and Historical Studies in Drawing. Lecture, three hours. Development of style and means of expression in drawing from late Middle Ages to the Early Renaissance. Mr. Bloch

121B. Critical and Historical Studies in Drawing. Lecture, three hours. Development of style and means of expression in drawing from Late Renaissance to the present. Mr. Bloch

122. History of Style and Ornament. Lecture, three hours. Development of stylistic ideas and motifs in the Western world and their expression in design media from the Renaissance to 1900. A study in connoisseurship. Mr. Bloch

125. Tutorial Conferences. Discussion, two hours. Prerequisites: courses 50, 51, 52, 53, and 54. Restricted to undergraduate art history majors. Discussion of selected art topics with emphasis on related readings in music, literature, history and philosophy. Oral reports. Course grading will be on Passed/Not Passed basis only. Art History Staff

PAINTING/SCULPTURE/GRAPHIC ARTS

Painting/Sculpture/Graphic Arts courses are supervised by the following faculty, augmented by visiting staff: painting, drawing and sculpture, Amato, Brice, Elgart, Mullican, Nunes, Stussy and Valerio; printmaking, Brown; photography, Heinecken.

130. Life Drawing. Studio, eight hours; five hours arranged. Prerequisites: courses 10A, 10B, or consent of instructor. Maximum three courses. Studies from the model.

132. Drawing. Studio, eight hours; five hours arranged. Prerequisite: consent of the instructor. Maximum two courses. Drawing as a terminal medium of artistic expression.

133. Painting. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 20A-20B, or consent of the instructor. Maximum three courses. Varied media and subjects. Composition, interpretation, expression.

135. Life Painting. Studio, eight hours; five hours arranged. Prerequisite: course 133. Maximum three courses. Varied media. Composition, interpretation, expression.

137. New Forms and Concepts. Studio, eight hours; five hours arranged. Prerequisites: courses 10A, 10B, 20A, 20B or consent of instructor. May be repeated for a maximum of eight units. Varied forms and processes. Concept art, performance and investigation of a variety of media, including film and video.

140. Print Making. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 20A-20B, 132, or consent of the instructor. Maximum three courses. Selected studies in engraving, etching, drypoint, aquatint, softground, lithography, woodcut, and mixed media. Traditional and experimental studies. Fine printing.

145. Sculpture. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 25 or consent of the instructor. Maximum three courses. Modeling or carving. Clay, plaster, wood, stone, metals, and welding. Plaster casting.

147. Photography. Studio, eight hours; five hours arranged. Prerequisites: courses 10A-10B, 20A-20B, or consent of the instructor. Maximum three courses. Photography as a medium of artistic expressions.

NOTE: For key to symbols, see pages 65 and 66

DESIGN

I. Comparative Studies in Design

161A. Ceramics. Lecture, three hours; laboratory, to be arranged. The evolution of ceramic form through geographic, social, and technological influences. Mr. Saxe

161B. Clothing. Lecture, three hours; laboratory, to be arranged. Clothing and body ornamentation; symbolic significance and evolving forms within their social, cultural, and geographic context. Ms. McCloskey

161C. Graphics. Lecture, three hours; laboratory, to be arranged. Symbols, signs and images, within social, cultural and historical contexts. Mr. W. Brown, Mr. Jennings, Mr. Neuhart

161D. Glass. Lecture, three hours; laboratory, to be arranged. The evolution of glass form and technology through geographic and sociological influences.

161E. Industrialization. Lecture, three hours; laboratory, to be arranged. Industry, design, and society; their changing relationships.

161F. Landscape. Lecture, three hours; laboratory, to be arranged. The analysis of concepts affecting the aesthetic and ecological quality of the landscape. Mr. Roberts

161G. Shelter. Lecture; three hours; laboratory, to be arranged. An analysis of dwelling types and forms; the forces affecting them.

161H. Textiles. Lecture, three hours; laboratory, to be arranged. Concepts of construction, ornamentation, expression, and utility. Mr. Kester in charge

161J. Video Imagery. Lecture, three hours; laboratory, to be arranged. Electronic audiographs in relation to pictorial forms; non-derivative "process level" characteristics and content-level perception. Mr. Kataoka, Mr. Neuhart

161K. Historic Fashions. Lecture, three hours; discussion, two hours. Fashions and stylistic changes in western dress from the late Medieval period to the present time, studied in relationship to the social and cultural background of each era. Ms. McCloskey

II. Concept and Form in Design

162A. Ceramics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Introduction to creative development of ceramic materials and processes. Mr. Saxe

162B. Ceramics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 162A or equivalent. The interaction of ideas, structure, and process. May be repeated once. Mr. Saxe

163A. Clothing. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Introduction to the creative process in designing contemporary clothing. Ms. McCloskey

163B. Clothing. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 163A or equivalent. Further development of the design process, with emphasis on the symbolic aspect of clothing. May be repeated once. Ms. McCloskey

164A. Fiber Structure. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Design and technology of woven forms; essential elements, tools, and processes. Mr. Bassler, Mr. Kester

164B. Fiber Structures. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 164A or equivalent. The derivation of non-loom processes utilizing pliable elements. May be repeated once. Mr. Bassler, Mr. Kester

165A. Graphics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. The development of letterforms, typography, and reproduction technology. Mr. W. Brown, Mr. Jennings, Mr. Neuhart

165B. Graphics. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 165A or equivalent. Empiric and systematic graphic concepts, including methods, symbols, and media technology. May be repeated once. Mr. W. Brown, Mr. Jennings, Mr. Neuhart

166A. Glass. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The development of forms in glass; off-hand methods including blowing, molding, and coldworking.

166B. Glass. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B 166A or equivalent. Theories of glass forming; colorants, lustres, acids, and surface delineation. May be repeated once.

167A. Industrialized Materials. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The influence of diverse media, structures, and systems on form development. Mr. Shapira

167B. Industrialized Materials. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 167A or equivalent. Theories of newly developed technological materials and processes as conceptual influences. May be repeated once. Mr. Shapira

168A. Landscape. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The modification, conservation, and utilization of natural land elements. Mr. Roberts

168B. Landscape. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 168A or equivalent. The specific relationship of modified natural elements to human requirements. May be repeated once. Mr. Roberts

169A. Product. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. Theoretical evolution of form in industry; synthesis of function, aesthetics, mechanical, and material properties. Mr. Shapira

169B. Product. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 169A or equivalent. Empiric resolution of form factors influencing concept interpretations for industry. May be repeated once. Mr. Shapira

170A. Shelter. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. The determination of criteria for designing spatial enclosures. Mr. Shapira

170B. Shelter. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 170A or equivalent. The definition of structure and space in relation to human needs. May be repeated once. Mr. Shapira

171A. Textiles. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, or equivalent. Surface modification through ornament. Ms. Breitenbach

171B. Textiles. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 171A or equivalent. Dyeing theories and processes; natural and synthetic colorants. May be repeated once. Mr. Bassler, Ms. Breitenbach

172A. Video Imagery. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B or equivalent. Introduction to electronic image-making; video-tape and "live" representation. Mr. Kataoka, Mr. Neuhart

172B. Video Imagery. Lecture, two hours; laboratory, four hours. Prerequisites: courses 31A-31B, 32A-32B, 34A-34B, 172A or equivalent. Electronic audiographic recording explored for its sensory potential; video-tape as record of process and content levels. May be repeated once. Mr. Kataoka, Mr. Neuhart

III. Proseminars in Design

192. Proseminar in Design: Resources. Proseminar, three hours. Prerequisite: consent of adviser. Investigation of resources for creativity as an introduction to research. Concurrent enrollment in one course in Concept and Form recommended. Enrollment through Design faculty advisers. Can be repeated once. Design Staff

193. Proseminar in Design: Senior Studies. Proseminar, three hours. Prerequisite: consent of adviser. Members of the faculty will examine specific problems relevant to Design theory and performance. Topics for investigation will be announced in advance. Open to senior and advanced students through Design faculty advisers. May be repeated for a maximum of three courses. Design Staff

PAINTING/SCULPTURE/GRAPHIC ARTS

195. Proseminar in Painting/Sculpture/Graphic Arts. Discussion, three hours. Prerequisites: courses 10A, 10B, 20A, 20B. Analysis and discussion in Painting, Sculpture, and Graphic Arts with variable topics such as the comparison and contrast of traditional and contemporary concepts and media, and relationships to other arts. May be repeated for a maximum of three courses. The Staff in Painting/Sculpture/Graphic Arts

Special Studies for All Majors

197. Honors Course. Hours to be arranged. Prerequisite: 3.0 overall, 3.5 in major, consent of instructor, junior or senior standing. Individual studies for majors. Maximum two courses. The Staff

199. Special Studies in Art. (½ to 2 courses) Hours to be arranged. Prerequisites: 3.0 in major, consent of instructor, senior standing. Individual studies for majors. Maximum, two courses. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

The Department of Art reserves the right to hold for exhibition purposes examples of any work done in classes and to retain for the permanent collection of its galleries such examples as may be selected.

UCLA FREDERICK S. WIGHT ART GALLERY

The UCLA Frederick S. Wight Art Gallery, adjacent to Dickson Art Center, presents a program of changing exhibitions of regional, national and international significance, including a range of historical, ethnic and contemporary forms of art. Included in this program are exhibitions by faculty and students of the Painting/Sculpture/Graphic Arts and Design areas, and exhibitions assembled from the extensive collections of the Museum of Cultural History, focusing on non-Western and folk art. The Grunwald Center for the Graphic Arts maintains a print study collection and presents a series of exhibitions related to the Art Department's program of advanced studies in the graphic arts and art history.

ASIAN AMERICAN STUDIES (Interdepartmental)

(Office, 3232 Campbell Hall)

Special Program in Asian American Studies

For details of the program in Asian American Studies at the Undergraduate level, see "Special Program in Asian American Studies" under College of Letters and Science.

INTERDISCIPLINARY COURSES

Upper Division

100A-100B. Introduction to Asian American Studies. This survey sequence is an introduction to Asian American Studies. The first quarter of the course will deal with the history of Asians in America. The second quarter will examine Asian American communities today. The Staff

103. Asian Americans and the Law. The course will survey major Federal and California case and legislative law directed specifically against Asian Americans, from 1850 to World War II and relocation. Major subject areas are Japanese relocation orders, Anti-Asiatic labor legislation, legal prohibitions against Asians' right to testify, case law on Asian women, and equal educational opportunity for Asians. Mr. Iwasaki

197. Topics in Asian American Studies.

The following courses pertaining to Asian American Studies are offered by the departments listed.

Anthropology 103A-103B-103C. Peoples of Asia.

106G. The Comparative Ethnography of the Hispanic Peoples in North America.

108. Peoples of the Pacific.

139. Comparative Minority Relations.

160. Urban Anthropology.

163. Women in Culture and Society.

164. The Afro-American Experience in the United States.

253. Asian Americans: Personality and Identity.

269O. Comparative Minority Relations.

269W. Culture and Personality of Japan.

269Y. Cultures of the Pacific Islands.

Architecture and Urban Planning 218A-218B. Urban Structure Analysis and Modeling.

255. Urban Morphology: Definitions and Consequences.

251. Planning for Multiple Publics.

253. Social Theory for Planning.

History 160. The Immigrant in America.

153. The United States and the Philippines.

155A-155B. American and European Working Class Movements.

159A-159B. History of the Chicano Peoples.

163. History of California.

154A-154B. United States Urban History.

183. Modern China.

161. Asians in American History.

187C. Japanese History.

245. Colloquium in U.S. History.

M264. History of American Education.

200H. Advanced Historiography: Interpretations of Race and Racism in America Historiography.

201H. Race and Labor in California 1848-1945.

252A-252B. Seminar in Recent U.S. History.

254A-254B. Seminar in United States Social and/or Intellectual History.

263A-263B. Seminar in the History of the American West.

256A-256B. Seminar in American Diplomatic History.

261A-261B. Seminar in Afro-American History.

282A-282B-282C. Seminar in Chinese History.

285A-285B. Seminar in Modern Japanese History.

257A-285B. Seminar in United States Urban History.

258A-258B. Seminar in Working Class History.

262A-262B. Seminar in Chicano History.

259A-259B. Seminar in Social History of Women in the U.S.

260A-260B. Seminar in Native American History.

Political Science 135. International Relations of China.

136. International Relations of the Japan.

147. Minority Group Politics.

159. Chinese Government and Politics.

160. Japanese Government and Politics.

250C. Chinese and East Asian Studies.

250D. Japanese and Western Pacific Studies.

Psychology 175. Community Psychology.

176. Experimental Community Psychology.

225. Social Psychology of Race Relations.

M228. Seminar in Political Psychology.

229A-229B. Issues in the Social Development of the Minority Child.

Sociology 124. Ethnic and Status Groups.

125. Urban Sociology.

129. White Racism.

134. Comparative Social Institutions of East Asia.

155. Intergroup Conflict and Prejudice.

234. Sociology of Community Organization.

238A-238B. Field Work in Minority Communities.

259. Social Structure and Economic Change: Historical and Comparative Perspectives.

260. Industry and Society.

261. Ethnic Minorities.

262. Selected Problems in Urban Sociology.

276. Selected Topics in the Sociology of East Asia.

291. Moral Solidarity in Communities.

ASTRONOMY

(Department Office, 8979 Mathematical Sciences Building)

George O. Abell, Ph.D., *Professor of Astronomy.*
Lawrence H. Aller, Ph.D., *Professor of Astronomy.*
Ferdinand Coroniti, Ph.D., *Professor of Physics and Astronomy.*
Harland W. Epps, Ph.D., *Professor of Astronomy.*
Holland C. Ford, Ph.D., *Professor of Astronomy.*
Miroslav Plavec, Ph.D., *Professor of Astronomy.*
Roger K. Ulrich, Ph.D., *Professor of Astronomy (Chairman of the Department).*
Daniel M. Popper, Ph.D., *Emeritus Professor of Astronomy.*
Michael A. Jura, Ph.D., *Associate Professor of Astronomy.*
Jonathan I. Katz, Ph.D., *Associate Professor of Astronomy and IGPP.*
Bruce H. Margon, Ph.D., *Associate Professor of Astronomy.*

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Steven A. Grandi, Ph.D., *Assistant Professor of Astronomy.*
Donald E. Osterbrock, Ph.D., *Director of Lick Observatory.*

Classes for Non-Majors

Astronomy 3 and 4 are essentially nonmathematical courses open to the general university student, normally not intending to major in the physical sciences. Astronomy 4 covers special topics to a somewhat greater depth and requires some preliminary elementary background in astronomy (e.g., Astronomy 3).

Students who have had at least two courses in high school algebra and one course in trigonometry, are strongly advised to take, instead of Astronomy 3, the parallel honors course Astronomy 3H. While the level of required mathematical skills in 3H is still elementary, the class is smaller and more challenging. Similarly, students who have already taken some college courses in physics and mathematics, should take Astronomy 4H instead of 4. In particular, declared or potential majors in astronomy or in physical and related sciences should take courses 3H and 4H, not 3 or 4.

Astronomy 101 is a general survey course recommended to science majors who wish to get a good general picture of astronomy and astrophysics in one course. Astronomy 4H is on about the same level, but has the form of a seminar focused on several selected topics, and is recommended mainly to lower division students who already have had an astronomy class.

Students of junior and senior standing in physics or related sciences are invited to choose any of the classes 103, 104, 106, 115, 117, 127, and 130.

Advising

Every student enrolled in the curriculum in astronomy is required each quarter to have a program approved by a departmental adviser.

Preparation for the Major

Required: Physics 8A-8E; Mathematics 31A, 31B, 32A, 32B, 33A, and 33B Recommended: Astronomy 3H, Chemistry 11A, Engineering 10F.

The Major

Required: Astronomy 103, 106, 115, 117, 127, 130; Physics 105A-105B; 110A-110B; 115A-115B; 131A. Mathematics: at least one upper division course chosen from 130 through 152, or alternatively, completion of Physics 131B. *Recommended:* Astronomy 4H, 101, 104, 180; Earth and Space Sciences 101; Physics 108, 112A, 112B, 124, 131B.

Honors Program in Astronomy

Senior majors in Astronomy with a 3.40 grade point average in all Astronomy, Mathematics, and Physics courses are eligible for the Honors Program in Astronomy. In addition to completing all courses required for the major, the honors student must complete two quarters of 199. To receive honors and highest honors at graduation, the grade point average must remain 3.40 or higher and the work in 199 must reflect original research and be accepted by the departmental honors committee.

Lower Division Courses

3. Astronomy: The Nature of the Universe. Lecture, three hours; discussion, one hour. Not open to students who have taken or are taking Astronomy 3H or 101. A course for the general University student, normally not intending to major in physical sciences, on the development of ideas in astronomy, and what has been learned of the nature of the universe, including recent discoveries and developments. No special mathematical preparation is required beyond that necessary for admission to the University with freshman standing. The Staff

3H. Introductory Astronomy and Astrophysics. Lecture, three hours per week; discussion, one hour per week. Not open to students who have taken or are taking Astronomy 3. Introduction to astronomy and astrophysics for freshmen who are seriously interested in science. Course requires the ability to understand mathematical and physical concepts, but high school algebra and trigonometry classes provide sufficient qualification. Particularly recommended to declared or potential majors in astronomy or in physical and mathematical sciences. Mr. Jura, Mr. Margon, Mr. Plavec

4. Topics in Modern Astronomy. Lecture, three hours; discussion, one hour. Prerequisite: course 3 or 3H, or the equivalent. Not open to students who have taken or are taking Astronomy 4H. For the general university student with previous introduction to astronomy. Selected topics (such as evolution of the solar system and stars, and cosmology) are treated in some depth, but without formal mathematics, emphasizing their significance and relationships to other sciences. The Staff

4H. Topics in Contemporary Astrophysics. Prerequisites: Astronomy 3 or 3H, Physics 8A, Math 31A-31B or equivalents; Physics 8B and Math 32A concurrent; or permission of the instructor. Not open to students who have taken or are taking Astronomy 4. An honors course for students whose physics and mathematics background is insufficient for upper division courses, but have the ability to understand mathematical and physical concepts. Selected topics, such as cosmology, stellar evolution, or formation of the solar system, are treated in depth with moderate use of mathematics.
Mr. Jura, Mr. Margon, Mr. Plavec

NOTE: For key to symbols, see pages 65 and 66

10. Practice in Observing. (½ course) Meets one evening a week for two and one-half hours. Prerequisite: knowledge of plane trigonometry and some previous or concurrent course in astronomy, or consent of the instructor. Practical work for beginners, including telescopic observations and laboratory exercises cognate to an introductory course in astronomy. The Staff

Upper Division Courses

101. General Astronomy and Astrophysics. Meets four hours per week. Prerequisites: Physics 8A and Mathematics 31A-31B or their equivalents. Open to qualified sophomores as well as upper division students. Course 10 may be elected for observatory and laboratory work in connection with this course. A survey of the whole field of astronomy, designed primarily for students majoring in a physical science or mathematics. The Staff

103. Gravitational Astronomy. Meets four hours per week. Prerequisites: Physics 8A-8D; Mathematics 31A-31B, 32A-32B and 33A; Astronomy 101 or 3H recommended. Astronomical coordinates, transformations, precession, astronomical time keeping, celestial navigation. Two body orbit theory in the solar system, calculation of an ephemeris from orbital elements and an orbit from observations. Theory of least squares and data handling. Orbits of visual and spectroscopic binary stars; determination of stellar masses. Tidal, rotational, and relativistic perturbations of the gravitational potential. Mr. Abell, Mr. Epps

104. Astronomical Optics. Meets three hours per week. Prerequisite: Physics 105A. Geometrical optics, including ray tracing and optical aberrations commonly encountered in optical design. Interference, diffraction, dispersion, photoelectric emission and other aspects of physical optics with particular emphasis placed on practical application in astronomical investigation. Mr. Epps

106. Stars, Stellar Systems, and Cosmology. Meets three hours per week. Prerequisites: Physics 8A-8D; Mathematics 31A-31B and 32B and 33A. Recommended: Astronomy 3H or 101, 103. Properties of stars, stellar spectroscopy and photometry. The galaxy and external galaxies. Galactic and extragalactic distance scales. Introduction to cosmology. Mr. Abell, Mr. Ford, Mr. Plavec

115. Physical Foundations of Astrophysics. Lecture, four hours. Prerequiste: upper division standing in astronomy or physics, or consent of instructor. Spectroscopy and spectral lines in stellar spectra. Theory of radiation and continuous stellar spectra. Astrophysics of the gaseous state of matter, ionization and excitation, and local thermodynamic equilibrium. Interaction between matter and radiation. Mr. Coroniti, Mr. Epps, Mr. Jura

117. Stellar Atmospheres and Interstellar Matter. Meets three hours per week. Prerequisite: senior standing in astronomy or physics, or consent of instructor; Astronomy 115 or its equivalent. Introduction to radiative transfer, stellar atmospheres and their models. Curve of growth analysis and abundance determinations. Atmosphere of the Sun. Physical conditions in the interstellar medium and aspects of star formation. Mr. Aller, Mr. Jura

127. Stellar Interiors and Evolution. Meets three hours per week. Prerequisites: senior standing in astronomy or physics, or consent of instructor. Recommended: Astronomy 115. Physical conditions in stellar interiors. Energy production in stars. Stellar evolution from star formation through the normally observed stages to white dwarfs, neutron stars, and black holes. Novae, supernovae, other variable stars. Synthesis of chemical elements in stars. Mr. Plavec, Mr. Ulrich

130. High Energy Astrophysics. Meets three hours per week. Prerequisites: Senior standing in astronomy or physics, or consent of instructor. Theory and observation pertaining to astronomical sources of high energy radiation. Theory of synchrotron radiation, Compton scattering; interaction of matter with compact objects. Solar flares, X- and gamma ray sources, the Crab nebula, nuclei of peculiar galaxies, quasars. Mr. Katz, Mr. Margon

180. Introduction to Modern Faint Object Measurement in Astronomy. Laboratory, six hours. Prerequisites: Junior or senior standing in astronomy or physics and consent of instructor. Introduction to modern astronomical instrumentation. Experiments will cover photography, phototubes, image tubes, spectrophotometry, solid-state detectors, and microprocessor-controlled instrumentation. Mr. Ford, Mr. Grandi

190. Senior Symposium on Topics in Modern Astronomy. Meets three hours per week. Prerequisite: senior standing in astronomy or physics or consent of the instructor. Lectures by instructors in astronomy and related fields to supplement the regular course sequence. Topics may include: radio, infrared, UV and X-ray astronomy, observational cosmology, variable stars, planetary physics, pulsars and quasars. Mr. Ulrich

199. Special Studies. (½ or 1 course) Prerequisite: senior standing in astronomy or physics, with an outstanding record, and consent of the instructor. Special studies with an individual faculty member. With prior approval, this course may be used to carry out a meritorious observing program at the UCLA Students' Observatory, or in special cases with the 24-inch reflector at the Department's Field Station in Ojai. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

ATMOSPHERIC SCIENCES

(Department Office, 7127 Mathematical Sciences Building)

Akio Arakawa, D.Sc., *Professor of Atmospheric Dynamics.*
James G. Edinger, Ph.D., *Professor of Meteorology.*
Hans R. Pruppacher, Ph.D., *Professor of Atmospheric Physics (Chairman of the Department).*
George L. Siscoe, Ph.D., *Professor of Atmospheric Physics.*
Richard M. Thorne, Ph.D., *Professor of Atmospheric Physics.*
Sekharipuram V. Venkateswaran, Ph.D., *Professor of Atmospheric Physics.*
Morton G. Wurtele, Ph.D., *Professor of Atmospheric Dynamics.*
Michio Yanai, D.Sc., *Professor of Atmospheric Dynamics.*
Jorgen Holmboe, M.Sc., *Emeritus Professor of Meteorology.*
Yale Mintz, Ph.D., *Emeritus Professor of Meteorology.*
Morris Neiburger, Ph.D., *Emeritus Professor of Meteorology.*
Kerry A. Emannel, Ph.D., *Assistant Professor of Meteorology.*
Jacob G. Kuriyan, Ph.D., *Assistant Professor of Atmospheric Physics.*
Derek C. Montague, Ph.D., *Assistant Professor of Atmospheric Chemistry.*
Max J. Suarez, Ph.D., *Assistant Professor of Atmospheric Dynamics.*

Preparation for the Major

The required courses are: Course 3H; Physics 8A-8E; Mathematics 31A-31B; 32A-32B and 33A-33B; Chemistry 11A and Engineering 10C or 10F.

The Major

The required courses are: Atmospheric Sciences 104A-104B-104C, 149; Physics 110A-110B, 131A-131B; two courses from Atmospheric Sciences 143, 144, 150, 151; one course from 160, 161; and two courses from 152, 153, 154. In addition, students preparing for graduate studies in Dynamic and Synoptic meteorology should take courses 150 and 151 and Mathematics 140A; students preparing for graduate studies in Dynamics and Microphysics of Clouds and Precipitation should take as electives the following courses: Physics 112B and 140 and Mathematics 140A, 135A and 135B; students preparing for graduate studies in Radiation, or Upper Atmospheric and Space Physics should take as electives the following courses: Physics 105A-105B, and 122.

Lower Division Courses

2. Air Pollution. Lecture, three hours; discussion, one hour. A breadth requirement course for all students interested in the causes and effects of high concentrations of pollution in the atmosphere. Topics covered will include the nature and sources of gaseous and particulate pollutants, their transport, dispersion, modification and removal, with emphasis on atmospheric processes on scales ranging from individual sources to global effects; interaction with the biosphere and the oceans; stratospheric pollution. Mr. Montague

3. Introduction to the Atmospheric Environment. Lecture, three hours; discussion, one hour. A course specifically designed to satisfy in part the breadth requirement of students majoring outside the Physical Sciences. The nature and causes of weather phenomena, including winds, clouds, rain, lightning, tornadoes and hurricanes, solar and terrestrial radiation; phenomena of the higher atmosphere; the ionosphere and the auroras; causes of air pollution; proposed methods and status of weather modification. This course is not open to students who have received credit for 3L. Mr. Edinger, Mr. Thorne

3H. Introduction to Atmospheric Sciences Prerequisites: Physics 8D or exceptional pepformance in high school mathematics and physics or consent of the instructor. An introductory course in atmospheric phenomena and atmospheric processes, required for Atmospheric Sciences majors and recommended for honors students who are declared or potential majors in the physical sciences or engineering. Mr. Siscoe

12. Forecasting Seminar. (½ course) Objective forecasting of wind, temperature, and precipitation for Los Angeles as measured at UCLA, and for a major city east of the Rockies. Emphasis on developing forecasting experience and familiarity with the use of satellite and conventional observations, map analyses and numerical weather prediction guidance produced by National Meteorological Center. Forecasts are quantified and evaluated objectively. No previous experience required. Mr. Emanuel

104A. Atmospheric Thermodynamics and Introduction to Cloud Physics. Prerequisites: Mathematics 33B, Physics 8D and Chemistry 11A. Basic thermodynamics including the first, second and third laws. Atmospheric statics. Dry adiabatic processes. Phase changes of water and moist adiabatic processes. Gravitational stability. Elementary cloud physics. Mr. Montague

104B. Introduction to Dynamic and Synoptic Meteorology. Lecture, three hours, laboratory, three hours. Prerequisites: Course 104A. Kinematics. Equation of motion. Quasi-static balance and the pressure coordinate. Geostrophic and thermal wind balance. Circulation and vorticity. Vorticity equations for baratropic and baroclinic atmospheres. Fronts and cyclones. Laboratory includes elementary synoptic analysis and a detailed synoptic case study. Mr. Wurtele

104C. Energetics of Solar-Atmosphere-Earth System. Prerequisites: Course 104B. Solar and terrestrial radiation. Atmospheric chemistry. Energy budget of atmosphere-earth system. Energy transports and energy cycle. Angular momentum budget. Hydrological cycle. Climatology. Mr. Venkateswaran

141. Solar and Terrestrial Relations and the History of Man. Lecture, three hours. The terrestrial consequences of solar activity—aurora borealis and magnetic storms, and its effects on various aspects of human activity through history, from space age to stone age; e.g., its impact on satellites, communications, arctic explorations, literature, folklore, myths and religion will be covered. Emphasis will be on the phonomenology and the human response to it. Background in one of the following or consent of the instructor: history of science, folklore, mythology, environmental or physical sciences, archeology, anthropology. Mr. Siscoe

143. Physical Oceanography. Lecture, three hours; discussion or field trip, one hour. Prerequisite: course 40A. Physical structure of the oceans; observational techniques. Theory of waves, currents, swell and tides. Mr. Wurtele

144. Micrometeorology and Air Pollution Meteorology. Lecture, three hours. Prerequisite: course 40A-40B or consent of the instructor. Wind and temperature structure in the surface layer; mesoscale weather and wind systems; turbulence and diffusion; evaporation; transport, diffusion and transformation of atmospheric contaminants. Mr. Edinger

M149. Introduction to Fluid Dynamics. (Same as Earth and Space Sciences M149.) Prerequisites: Physics 131A-B or consent of instructor. Equations of fluid motion. Circulation theorems. Irrotational flow. Vortex motion. Surface and internal gravity waves. Rotating frame. Viscous flow. Mr. Yanai

150. Geophysical Fluid Dynamics. Prerequisites: Course M149 or consent of instructor. Acoustic and gravity waves. Rossby waves. Quasi-geostrophic motions. Barotropic and baroclinic instabilities. Dynamics of general circulation of the atmosphere. Mr. Mechoso

151. Atmospheric Turbulence and Convection. Lecture, three hours; discussion two hours. Prerequisite: course M149 or consent of the instructor. Atmospheric turbulence and boundary layers. Stratus clouds. Elementary cumulus dynamics. Tropical cyclones. Frontal and mesoscale weather systems. Mr. Arakawa

152. Physics of Clouds and Precipitation. Lecture, three hours; discussion, one hour. Prerequisite: Mathematics 33B and Physics 112A or Chemistry 110A or consent of instructor. The nature and structure of clouds and precipitation; phase changes of water in the atmosphere; condensation on nuclei; development of precipitation particles. Mr. Pruppacher

153. Atmospheric Radiation. Lecture, three hours. Prerequisite: Physics 110B, or consent of the instructor. Thermal radiation from the sun and planets. Transfer of thermal radiation through planetary atmospheres. Radiation budget. Scattering of electromagnetic radiation by atoms, molecules, dust and aerosols. Remote sensing. Meteorological optics. Mr. Siscoe

M154. Solar Terrestrial Physics. (Same as Earth and Space Sciences M154.) Lecture, three hours; discussion, one hour. Prerequisite or concurrent: Physics 110B. Particle and electromagnetic emissions from the sun under quiet and under disturbed conditions. The solar wind. The magnetospheres and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and airglow. Mr. Thorne

160. Synoptic Meteorology Laboratory. Laboratory, six hours. Prerequisites: Course 104B or equivalent. Advanced synoptic and mesascale analysis. Tropical synoptic and subsynoptic systems. Weather forecasting. Mr. Yanai

161. Laboratory in Atmospheric Dynamics. Laboratory, six hours. Prerequisites: Concurrent with course 150; Engineering 10C or 10F; or consent of instructor. Numerical solution of problems selected from atmospheric dynamics. Introduction to numerical weather prediction. Mr. Suarez

165. Laboratory in Meteorological Observation. Prerequisite: junior standing and consent of the departmental undergraduate adviser. Theory and application of instrumentation in field and laboratory. The material covered will be partly determined by the students' interests. Mr. Edinger

198. Operational Meteorology. (½ course) Prerequisites: Junior or Senior standing. Daily contact with weather data and forecasting, satellite, acoustic sounder and radar data. Introduction to weather forecasting for aviation, air pollution, marine weather, fire weather and public use. Includes daily weather map discussions and visits to observing, radiosonde and radar installations. Dr. Edinger

199. Special Studies in Meteorology. (½ or 1 course) Prerequisite: consent of the instructor. Special individual study. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

Related Courses in Other Departments

Astronomy 101; 103A-103B; 104.

Chemistry 110A-110B; 113; 114A; 123A-123B.

Earth and Space Sciences 101; M109A; M154.

Engineering 10C, 103A; 117A-117B; M118; M124A; 131A; 150A-150B; 181A; 192A-192B-192C.

Mathematics 135A-135B-135C; 131A-131B; 132; 140A-140B-140C; 142; 145A-145B; 150A-105B-105C; 152A-152B.

Physics 108; 110A-110B; 112A-112B; 115A-115B; M122; 131A-131B.

Graduate Courses of Special Interest to Qualified Meteorology Majors

Astronomy 201A.

Chemistry 215; 223.

Earth and Space Sciences 202; 203; M211; 214; 217; 228; 250; 261; 265.

Engineering 231C; 250A-250C; 251A-251C; 252A-252B; 259A.

Mathematics 250C; 265A-265B; 266A-266B-266C; 267A-267B; 269A-269B-269C; 271A-271B-271C; M274A-274B; 276A-276B-276C.

Physics 210A-210B; 215A-215B; 222A-222B-222C; 231A-231B-231C.

BIOCHEMISTRY

The Biochemistry major is described in the Chemistry section.

BIOLOGICAL CHEMISTRY

The department of Biological Chemistry does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

BIOLOGY

(Department Office, 2203 Life Sciences Building)

Albert A. Barber, Ph.D., *Professor of Cell Biology.*
George A. Bartholomew, Ph.D., *Professor of Zoology.*
Joseph Cascarano, Ph.D., *Professor of Cell Biology.*
David J. Chapman, Ph.D., *Professor of Biology.*
William R. Clark, Ph.D., *Professor of Cell Biology*
Martin L. Cody, Ph.D., *Professor of Biology.*
Nicholas E. Collias, Ph.D., *Professor of Zoology.*
Wilbur T. Ebersold, Ph.D., *Professor of Biology.*
Roger O. Eckert, Ph.D., *Professor of Biology.*
Franz Engelmann, Ph.D., *Professor of Biology.*
John H. Fessler, Ph.D., *Professor of Molecular Biology.*
Malcolm S. Gordon, Ph.D., *Professor of Biology.*
Thomas R. Howell, Ph.D., *Professor of Zoology.*
Thomas W. James, Ph.D., *Professor of Cell Biology.*
J. Lee Kavanau, Ph.D., *Professor of Biology.*
James A. Lake, Ph.D., *Professor of Molecular Biology.*
George G. Laties, Ph.D., *Professor of Plant Physiology.*
F. Harlan Lewis, Ph.D., *Professor of Biology.*
O. Raynal Lunt, Ph.D., *Professor of Biology.*
Austin J. MacInnis, Ph.D., *Professor of Cell Biology.*
Leonard Muscatine, Ph.D., *Professor of Biology.*
Park S. Nobel, Ph.D., *Professor of Biology.*
John D. O'Connor, Ph.D., *Professor of Developmental Biology.*
Bernard O. Phinney, Ph.D., *Professor of Biology.*
Dan S. Ray, Ph.D., *Professor of Molecular Biology.*
Winston A. Salser, Ph.D., *Professor of Molecular Biology.*
Charles A. Schroeder, Ph.D., *Professor of Botany.*
Richard W. Siegel, Ph.D., *Professor of Biology.*
Larry Simpson, Ph.D., *Professor of Cell Biology.*
Clara M. Szego, Ph.D., *Professor of Biology.*
Henry J. Thompson, Ph.D., *Professor of Botany.*
J. Philip Thornber, Ph.D., *Professor of Molecular Biology.*
Peter P. Vaughn, Ph.D., *Professor of Zoology.*
David Appleman, Ph.D., *Emeritus Professor of Plant Physiology.*
Gordon H. Ball, Ph.D., *Emeritus Professor of Zoology.*
John N. Belkin, Ph.D., *Emeritus Professor of Zoology.*
Jacob B. Biale, Ph.D., *Emeritus Professor of Biology.*
Frederick Crescitelli, Ph.D., *Emeritus Professor of Cell Biology.*
Eric B. Edney, Ph.D., *Emeritus Professor of Biology.*
Karl C. Hamner, Ph.D., *Emeritus Professor of Botany.*
Arthur W. Haupt, Ph.D., *Emeritus Professor of Botany.*
Mildred E. Mathias, Ph.D., *Emeritus Professor of Botany.*
Everett C. Olson, Ph.D., *Emeritus Professor of Zoology.*
Flora Murray Scott, Ph.D., *Emeritus Professor of Botany.*
Fritiof S. Sjostrand, M.D., Ph.D., *Emeritus Professor of Molecular Biology.*
Boyd W. Walker, Ph.D., *Emeritus Progessor of Zoology.*
Vladimir Walters, Ph.D., *Emeritus Professor of Zoology.*
Samuel G. Wildman, Ph.D., *Emeritus Professor of Botany.*
Clifford F. Brunk, Ph.D., *Associate Professor of Cell and Molecular Biology.*
Robert Goldberg, Ph.D., *Associate Professor of Biology.*
George C. Gorman, Ph.D., *Associate Professor of Biology.*
Michael Grunstein, Ph.D., *Associate Professor of Biology.*
Harumi Kasamatsu, Ph.D., *Associate Professor of Biology.*
John R. Merriam, Ph.D., *Associate Professor of Genetics.*
James G. Morin, Ph.D., *Associate Professor of Zoology.*
Kenneth A. Nagy, Ph.D., *Associate Professor of Biology in Residence.*
Elma Gonzalez, Ph.D., *Assistant Professor of Cell Biology.*
Henry A. Hespenheide, Ph.D., *Assistant Professor of Biology.*
Judith A. Lengyel, Ph.D., *Assistant Professor of Biology.*
Peter M. Narins, Ph.D., *Assistant Professor of Biology.*
Paul H. O'Lague, Ph.D., *Assistant Professor of Biology.*
Jane A. Peterson, Ph.D., *Assistant Professor of Biology.*
Allan J. Tobin, Ph.D., *Assistant Professor of Biology.*
Elaine M. Tobin, Ph.D., *Assistant Professor of Biology.*
Richard R. Vance, Ph.D., *Assistant Professor of Biology.*
Dan B. Walker, Ph.D., *Assistant Professor of Botany.*

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Robert Barrett, Ph.D., *Lecturer in Biology.*
Jared M. Diamond, Ph.D., *Professor of Physiology.*
J. William Schopf, Ph.D., *Professor of Geology.*
M. Ann Spence, Ph.D., *Associate Professor of Psychiatry and Biomathematics in Residence.*
David Verity, B.S., *Senior Museum Scientist, Botanical Gardens and Herbarium.*

Advising

All incoming students (Freshmen and Transfers) must see a departmental advisor before they register for classes. In addition, all students majoring in Biology must confer with a departmental advisor by the start of the junior year and again during the senior year.

Pre-Biology Major

Students who have not completed all the courses required as preparation for the major are pre-Biology majors. Upon completion of these courses with a grade of C– or better in each, students should petition to enter the Biology major in the Undergraduate Affairs Office.

Preparation for the Major

1. Biology 5, 6, 6L, 7, 8, 8L

2. Chemistry 11A-11B-11BL-11C-11CL; 21, 23, 25

3. Mathematics 3A-3B-3C or 31A-31B-32A; the 31A-31B-32A courses are strongly recommended for students intending to study ecology, evolution, or population genetics.

4. Physics 6A-6B-6C

Requirements for the Major

1. Three courses from the core list, one from each of the following groups:

a. Morphology Systematics: Biology 100, 105, 110, 153, Microbiology 101

b. Developmental and Molecular Biology: Biology 137, 138, 141, 144, 146

c. Physiology: Biology 158, 162, 166

2. Two additional upper division Biology courses

3. Four courses which may be chosen from upper division Biology or any upper division course in Microbiology, Chemistry, Mathematics (except 100

NOTE: For key to symbols, see pages 65 and 66

through 107), Physics or the approved list which may be obtained in the Student Affairs Office. A maximum of 4 units of Biology 199 may be applied toward the major. 199's from other departments cannot be applied.

Additional Requirements

1. Six unit courses (1½ courses) count as only one course on requirements for the major.

2. A maximum of eight units of Biology 190 *or* four units of Biology 199 may be used for fulfillment of the major.

3. Courses taken to fulfill requirements for preparation for the major and the major must be taken for a letter grade.

4. Biology majors must earn a C− or better in each core course, a 2.0 average in all upper division Biology courses, and a 2.0 average in the nine courses comprising the major.

Transfer Students

In order to be admitted as pre-Biology majors, transfer students who have 80 units or more must have completed one year of General Chemistry with laboratory Biology 5 and 7 or its equivalent, and one of the following sequences:

1. one year of calculus;

2. one year of calculus-based physics; or

3. two courses in organic chemistry with laboratory

Honors in Biology

Requirements for graduation with Honors in Biology are an overall GPA of 3.40 and a 3.40 in the Biology major. Highest honors in Biology are awarded to those Biology majors who have a GPA of 3.60 overall and a 3.60 GPA in the major at graduation and who have satisfactorily completed Biology 190.

Lower Division Courses

2. Principles of Biology. Lecture, three hours; laboratory, one and one-half hours. Lecture: structure and chemical composition of cells, animal structure and diversity, cellular respiration, photosynthesis, major organ systems with emphasis on human, cell division, reproduction, development, ecology, population growth, genetics, evolution. Laboratory: structure and function of cells, morphology of plants and animals, circulatory and nervous systems, embryology, plant diversity and adaptation, human genetics. Offered for students other than majors in the biological sciences. Not open to students who have had Biology 4A-4B or 5 and 7. The Staff

5. Biology of Organisms. Lecture, three hours; discussion/demonstration, two hours. Comparative morphology and embryology of the major plant and animal phyla; function of organ systems including gas exchange, transport, regulation of the internal environment, hormones, coordination, and the nervous system. The Staff

6. Ecology and Evolution. Lecture, three hours; discussion, two hours. Prerequisites: course 5 and Mathematics 3A or 31A. A survey of the principles of population growth and ecology, competition, predation, community ecology, environmental physiology, population genetics, natural selection, and speciation. The Staff

6L. Organismic and Environmental Biology Laboratory. (¼ course) Laboratory, three hours. Prerequisite: course 6 (may be taken concurrently with Biology 6). Introductory Biology Laboratory including basic cell and microorganism organization, morphology and diversity of organisms, population biology, evolution, and community ecology. The Staff

7. Introductory Cellular and Molecular Biology. Lecture, three hours; discussion/demonstration, one hour. Prerequisite: course 5; Chemistry 23 is strongly recommended. An integrated introduction to cellular and subcellular biology, including cells and organelles, molecular biology, cell cycles, and developmental biology. The Staff

8. Introductory Genetics. Lecture, three hours; discussion/demonstration, one hour. Prerequisite: course 7. Principles of Mendelian inheritance, including gene interactions, introductory biochemical genetics, chromosome changes, and mutations genetics. The Staff

8L. Cellular and Molecular Biology Laboratory. (¼ course) Laboratory, three hours. Prerequisite: course 8 (may be taken concurrently with Biology 8). Introductory laboratory experience including; bacterial growth, mitosis and meiosis, genetics, molecular biology and developmental biology. The Staff

10. Plants and Civilization. Lecture, three hours; lecture-demonstration, one hour. The origin of crop plants; man's role in the development, distribution, and modification of food, fiber, medicinal and other plants in relation to their natural history. Designed for non-majors. Mr. Schroeder (F,Sp)

11. Field Botany. Lecture, two hours; laboratory, six hours; required field trips. An introduction to the systematics, morphology, and ecology of the local flora (native and cultivated). Use of keys for identification; morphological characteristics of common families of vascular plants; plant communities and environmental factors affecting their distribution; emphasis on California. Designed for non-majors. Mr. Thompson (Sp)

12. Taxonomy and Ecology of Ornamental Plants. Lecture, one hour; laboratory and field trips, six hours. The origin, classification and identification of the more important ornamental plants in southern California with special emphasis on their environmental requirements and adaptation. Designed for non-majors. Mr. Lewis

13. Evolution of Life. Lecture, three hours; discussion, one hour. Limited to 100 students. Not open to Life Sciences majors. An introduction to biology within the framework of evolutionary theory. The relationships of evolutionary thought to other areas of knowledge and society. Natural selection and the origin of variation are examined in the context of genetics, molecular biology, physiology, phylogeny, population dynamics, behavior and ecology. Stress is laid upon the critical role of historical processes. The Staff (F)

20. Introduction to Human Heredity. Lecture, two hours; discussion, one hour; laboratory, two hours. This course is not open to students with a previous college course in genetics, nor is it intended to satisfy the requirements of medical or dental schools. Man's inheritance and its biological basis will be introduced through lectures, readings and laboratory exercises with *Drosophila*. Topics will include prenatal development, Mendelizing factors, the role of chromosomes in heredity and the role of genes in disease and population structure. The Staff (Sp)

21. Field Biology. Lecture, three hours; required field trips. Prerequisite: course 2. An introduction to the natural history and ecology, interrelationships, and classification of the common animals and plants with emphasis on western North America. The Staff

25. The Oceans. Lecture, three hours; discussion, one hour. Not open to students in the sciences or to students who have taken Earth and Space Sciences 15. Limited to 40 students. Physical and chemical processes that take place in the oceans with emphasis on their effects on organisms. The Staff (W)

30. Biology of Cancer. Lecture, four hours. An introduction to molecular, cellular and clinical aspects of cancer and a consideration of the sociological and psychological impact of cancer on the individual and society. Each lecture-discussion period will be given by an invited lecturer who is prominent in cancer research or treatment. (Credits may not be applied toward fulfillment of the Biology major.) P/NP The Staff

M33. Biological and Sociological Perspectives of Human Variability. (Same as Afro-American Studies M33.) Lecture, three hours; discussion, one hour. Introductory exposition of biological principles of inheritance and of evolutionary processes. Sociological criteria for classification of humans into races or ethnic groups, interactions of the groups, and)) sociological forces influencing them. History of intellectual development of concepts of human variation and their societal applications. (Credits may not be applied toward fulfillment of the Biology major). Mr. Kitano, Mr. Saxton

Upper Division Courses

Upper division standing and completion of Biology 4A-4B or 5, 6, 7 and 8 or equivalent or consent of instructor are required for admission to all upper division courses.

100. Biology of Lower Plants. (1½ courses) Lecture, four hours; laboratory, six hours. Prerequisite: course 5 or equivalent or consent of instructor. An introduction to the biology of algae, fungi and bryophytes, with an emphasis on form, function and development, and the role of lower plants in the environment. Students are strongly encouraged to take both 100 and 101 since these represent a course sequence to survey the entire plant world as appropriate background for upper division courses in plant biology. Mr. Chapman

101. Biology of Vascular Plants. (1½ courses) Lecture, three hours; laboratory, six hours. Prerequisite: course 5 or the equivalent or consent of the instructor. An intoduction to the diversity in form and reproduction of vascular plants with emphasis on development, evolution, and function. Students are strongly encouraged to take both 100 and 101 since these represent a course sequence to survey the entire plant kingdom as appropriate background for upper division courses in plant biology. Mr. D. Walker

102. Biology of Marine Invertebrates (1 or 1½ courses) Lecture, five hours; laboratory, fifteen hours (five week intensive course). Prerequisites: Preparation for the Major and consent of instructor. Morphology, systematics, life histories and natural history, ecology, behavior, and physiology of marine invertebrates; emphasis on local invertebrates of southern California and their habitats. Course to be given at the *Catalina Marine Science Center.* Mr. Morin, Mr. Muscatine, Mr. Vance

103. Taxonomy of Flowering Plants. Lecture, two hours; laboratory and field trips, six hours. The evolution, systematics, and distribution of the families of flowering plants. Morphology, principles of taxonomy, phylogenetic systems, nomenclature, modern methods of investigation. The Staff

104. Biology of Marine Vertebrates. (1 or 1½ courses) Prerequisites: completion of preparation for the Major and consent of instructor. Selected aspects of the natural history, ecology, physiology and behavior of vertebrates living in marine environments. To be offered as a concentrated five or seven week course for four or six units credit as part of the Catalina Marine Biology Quarter. Mr. B. Gordon, Mr. B. Walker

105. Biology of Invertebrates. (1½ courses) Lecture, three hours; laboratory, six hours (includes field trips). Prerequisite: completion of all courses listed under Preparation for the Major. Introduction to the systematics, evolution, natural history, morphology and physiology of the invertebrates. Mr. Morin, Mr. Muscatine (F)

106A-106B. Experimental Marine Invertebrate Zoology. (1½ courses each) Lecture, two hours; laboratory, 12 hours. Prerequisites: courses 105 and 166 (latter may be taken concurrently with 106A) or the equivalent and the consent of the instructor. Course 106A is a prerequisite to 106B. An advanced course on natural history, physiology, biochemistry of invertebrates with emphasis on independent laboratory and field investigations. Mr. Morin, Mr. Muscatine

107. Entomology. Lecture, three hours; laboratory, six hours; field trips. An introduction to the morphology, ecology and classification of insects. The Staff

108. Terrestrial Arthropods. Lecture, three hours; laboratory, six hours; several field trips. Prerequisite: course 107 or consent of the instructor. Systematics, distribution, and bionomics of hexapods and arachnids. The Staff

109. The Development of Evolutionary Theory. Lecture, three hours; discussion, one hour. A study of the historical development of the physical and biological concepts which have led to current evolutionary theory. These concepts are considered in context of the social circumstances in which they originated. Enrollment limited to 80 students. The Staff

110. Vertebrate Morphology. Lecture, three hours; laboratory, four hours. Prerequisite: completion of all courses listed under Preparation for the Major. A study of vertebrate morphology and evolution from the viewpoint of: comparative anatomy of adult forms, developmental anatomy, and paleontology. Laboratory study of selected vertebrates. Ms. Peterson, Mr. Vaughn (F,W)

111. Biology of Vertebrates. Lecture, three hours; demonstrations, field trips, discussions, three hours. Prerequisite: completion of all courses listed under Preparation for the Major. The adaptations, behavior, and ecology of vertebrates. Mr. Bartholomew, Mr. Howell (F,Sp)

112. Ichthyology. Lecture, two hours; laboratory, six hours; field trips. Prerequisites: courses 110 and 111. The systematics, ecology and behavior of fishes, with special emphasis on local marine forms. The Staff

113. Herpetology. (1 or 2 courses) Prerequisites: One of the following: Biology 111, 120 or 122, and consent of the instructor. *Herpetology will be offered alternately as a 4-unit course to be given during a conventional academic quarter, or as an 8-unit course as part of the Field Biology Quarter.* The 4-unit course has lecture, three hours, laboratory, six hours, and approximately 4 weekend field trips. The systematics, distribution, physiology, behavior and ecology of amphibians and reptiles will be covered. The 8-unit course covers the same basic lecture and laboratory material in two intensive weeks. This is followed by an extended field trip where students will do individual field projects in behavior, physiological ecology, or field ecology. Mr. Gorman

114. Ornithology. Lecture, two hours; laboratory, discussion, field trips, six hours. Prerequisites: course 111 and consent of the instructor. Limited enrollment. The systematics, distribution, physiology, behavior and ecology of birds. Mr. Howell

115. Mammalogy. Lecture, two hours; laboratory and field trips, six hours. Prerequisite: course 111 or the equivalent and consent of the instructor. The evolution, ecology, behavior and physiology of mammals. The Staff

116. The Evolution of Mammalian Dentitions. Lecture, two hours; laboratory, six hours. Prerequisite: consent of the instructor. Limited enrollment. The origin and adaptive radiation of mammalian teeth is considered with special emphasis upon morphological aspects of change relative to function. Tooth histology and embryology are studied. Laboratory work involves study of dental morphology and histology. The Staff

M117. Vertebrate Paleontology. (Same as Earth and Space Sciences M117.) Lecture, three hours; laboratory, three hours. Prerequisite: course 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates, with emphasis on the morphology of primitive forms in the series from fish to mammal. Mr. Vaughn

M118. Paleobotany. (Same as Earth and Space Sciences M118.) Lecture, three hours; laboratory, three hours. Prerequisite: one course in biological science or consent of instructor. Recommended: Earth and Space Sciences 2 or equivalent. Survey of morphology, paleobiology, and evolution of vascular and nonvascular plants during geologic time, and particular emphasis on major evolutionary events. Mr. Schopf

120. Evolutionary Biology. Lecture, three hours; laboratory, two hours. Prerequisites: completion of all courses listed under Preparation for the Major; Mathematics 31A-31B-32A is highly recommended. Recommended for biology majors specializing in environmental and population biology. Introduction to the mechanics and processes of evolution with emphasis on natural selection, population genetics, speciation, evolutionary rates, and patterns of adaptation. Mr. Cody, Mr. Hespenheide (W)

121. Seminar in Ecology. (½ course) Discussion two hours. Prerequisites: course 120 or 122 and consent of instructor. Undergraduate seminar in ecology; reading and discussion of current research, including preparation of review paper or annotated bibliography. May be repeated twice for credit. Mr. Hespenheide

122. Ecology. Lecture, three hours; laboratory, three hours. Prerequisites: completion of all courses listed under Preparation for the Major; Mathematics 31A-31B-32A is highly recommended. Recommended for biology majors specializing in environmental and population biology. Introduction to population and community ecology, with emphasis on the growth and distribution of populations, interactions between species, and the structure, dynamics and functions of communities and ecosystems. Mr. Cody, Mr. Vance (F)

123. Ecology of Marine Communities. (1 or 2 courses) Prerequisites: course 122, approval for scuba diving from UCLA diving officer, and consent of instructor; course 105 and 112 are recommended. *This course will be offered either as a full quarter course for 4 units credit or in the Field Biology Quarter as a concentrated five-week course for 8 units credit.* Field study of the natural history and ecology of marine organisms and communities. Field work will involve scuba diving. Part of the course will be devoted to an independent research project. Mr. Morin, Mr. Vance

124. Field Ecology. (1 or 2 courses) Lecture, two hours; laboratory or field trip, ten hours. Prerequisites: course 120 or 122 and consent of instructor. Field and laboratory research in ecology, the collection, analysis and write-up of numerical data, with emphasis on design and execution of field studies. *The course may either be given as a quarter-long course with weekend field trips, or as a single field trip conducted between quarters followed by lectures and tutorials for three weeks. When the course is given as part of the Field Biology Quarter, it will be 8 units and will last for five weeks (see above, under Requirements for the Major).* Mr. Cody

125. Plant Population Ecology. (1 or 2 courses) Lecture, two hours; laboratory, six hours; field trips. Prerequisites: course 120 and consent of instructor. *This course will be offered either as a full quarter course for 4 units credit or in the Field Biology Quarter as a concentrated five-week course for 8 units credit.* A study of ecological variation, structure, distribution and reproductive biology of plant populations emphasizing field studies of selected populations and ecosystems. Mr. Cody

M127. Soils, Plants, and Society. (Same as Geography M127.) Lecture, four hours; field trip. Prerequisites: Chemistry 1A, 1B, 1C or equivalent or consent of instructor. A general treatment of: soil development and morphology and the physical and chemical properties of soils as they relate to plant growth and distribution; soil resources, management, conservation and cultural aspects. Soil profiles examined on the field trip are used to explain developmental phenomena. Mr. Lunt

128. Plant Physiological Ecology. (1 or 2 courses) Lecture, three hours; laboratory and field, three hours. A study of plant-environmental interactions under natural conditions. Emphasis is on transpiration and photosynthesis, leaf temperatures, and water movement in the soil-plant-atmosphere continuum. Individual student projects. *When the course is given as part of the Field Biology Quarter it will be 8 units and the individual research project will be correspondingly expanded.* Mr. Nobel

129. The Behavior of Animals. Lecture, three hours; discussion, three hours. Prerequisite: course 111 or consent of the instructor. Ecological significance, underlying mechanisms, and evolution of behavior, with special reference to animal sociology under natural conditions. Mr. Collias

130. Behavior Research Problems. Lecture, three hours; laboratory, two hours. Prerequisite: consent of the instructor. Systems controls and nonobtrusive sensing procedures for behavior studies in the laboratory and field. Rationale, design, and limitations of laboratory studies of behavior. Mr. Kavanau

131. Insect Ecology. (1 or 2 courses) Lecture, two hours; laboratory or field trip, eight hours. Prerequisites: course 120 or 122 and consent of instructor. Analysis of the ecological roles of insects in terrestrial communities, with emphasis on interactions with both plants and vertebrates. Students will perform group and individual field projects. *The course may either be given as a quarter-long course with weekend field trips or as part of the Field Biology Quarter. When given as part of the Field Biology Quarter, it will be 8 units and the amount of field work increased accordingly.* Mr. Hespenheide

M132. Comparative Genetics. (Same as Microbiology M132.) Lecture, three hours: discussion/demonstration, one hour. Prerequisites: course 4A-4B or 5, 7 with grade of C or better, or consent of instructor. Chemistry 23 or equivalent course in biochemistry, or consent of instructor. Mendelian principles; the gene: its structure, function, and chemistry, with emphasis on mutation, coding regulation, and transmission. Not open to students who have had Biology 134. Mr. Grunstein, Mr. Siegel (F,W,Sp)

M134. Human Genetics. (Same as Biomathematics M134.) Lecture, three or four hours; discussion, one or two hours. Prerequisites: Biology 4A-4B, elementary organic chemistry and biochemistry (equivalent to Chemistry 21 and 22) or concurrent registration. Mendelian principles and the gene, with emphasis on human examples. Topics include mutation at the locus, chromosome, family and population levels; in borne errors of metabolism; ascertainment bias; linkage; X inactivation; gene regulation. Not open to students who have had Microbiology or Biology M132. Mr. Merriam, Ms. Spence

135. Population Genetics. Lecture, three hours; discussion, one hour. Prerequisite: course M132: Mathematics 31A-31B-32A is highly recommended. Basic principles of genetics of population, dealing with the genetic structure of natural populations and the mechanisms of evolution. The course will cover equilibrium conditions and the forces altering gene frequencies, polygenic inheritance, and the methods of quantitative genetics. The Staff

136A-136B-136C. Seminar in Genetics. (½ course each) Discussion, two hours. Prerequisites: course M132 or 134, and consent of the instructor. Undergraduate seminar in genetics; reading and group discussion of current research in genetics. Mr. Siegel (F,W,Sp)

137. Morphogenesis. Lecture, three hours; discussion, one hour. Prerequisite: completion of Prebiology Major. Study of embryonic development. Emphasis will be on the morphogenetic events in insect, avian, amphibian and mammalian species. The Staff

138. Developmental Biology. Lecture, three hours; discussion, one hour. Prerequisite: completion of all courses listed under Preparation for the Major. Synopsis of fundamental concepts in embryology and a survey of current topics in developmental biology. Ms. Lengyel, Mr. O'Connor, Mr. Tobin (F,W,Sp)

139. Introductory Laboratory in Developmental Biology. Lecture, two hours; laboratory, six hours. Prerequisites: course 138 and consent of the instructor. Introductory course in developmental

NOTE: For key to symbols, see pages 65 and 66

biology including cell and organ culture and biochemical analysis of developing systems.
The Staff

140. Plant Development and Differentiation. Lecture, two hours; laboratory, four hours. Prerequisites: Biology 4A-4B (or 5 and 7) or consent of instructor. A study of the ontogeny of the vascular plant body and comparisons of that development among the major plant taxa; discussion of the concepts of plant development. Mr. Schroeder

141. Molecular Basis of Plant Differentiation and Development. Lecture, three hours; discussion, one hour. Prerequisites: course 4A-4B or 5, 6, 7, 8. An in depth study of the basic processes of development and the molecular aspects of the developmental process as it relates to the plant kingdom. A variety of developing systems will be discussed (protistons, fungi, lower and higher plants) with the goal of developing a unified concept of differentiation. Mr. Goldberg, Ms. Tobin (Sp)

142A-142B-142C. Seminar on Topics in Developmental Biology. (½ course each) Discussion, two hours. Prerequisites: course 138 and consent of the instructor. Undergraduate seminar on topics in developmental biology. Reading and group discussions of current research. Will be offered each quarter.
Ms. Lengyel, Mr. O'Connor, Mr. Tobin

144. Molecular Biology. Lecture, three hours; discussion, one hour. Prerequisite: completion of all courses listed under Preparation for the Major. Course M132 is strongly recommended. A course in molecular biology emphasizing the synthesis, structure, function and interactions of biological macromolecules.
Mr. Brunk, Mr. Fessler, Mr. Ray (F,W,Sp)

145A-145B-145C. Molecular Biology Laboratory. Laboratory, twelve hours. Prerequisite: consent of the instructor. It is highly desirable that the student have already taken course 144. A course in experimental molecular biology in which the student carries out original research under supervision. Space available is limited, and arrangements must be made in advance with the instructor.
Mr. Salser (F,W,Sp)

146. Physicochemical Biology. Lecture, four hours. Prerequisite: completion of all courses listed under Preparation for the Major. A physicochemical analysis of the physiology of cells and organelles with emphasis on membranes, thermodynamics of solute and water movement, light absorption, and subcellular energy transduction. Mr. Nobel (F)

147. Biological Oceanography. Lecture, five hours; laboratory, fifteen hours (five week intensive course). Prerequisites: completion of preparation for the Major and consent of instructor. Lecture: physical, chemical, and biological factors affecting the composition and distribution of plankton. Natural history of major phytoplankton and zooplankton taxa; production in marine food chains; adaptation to pelagic habitat. Laboratory: systematics, morphology of major plankton taxa; experimental studies of local marine plankton with emphasis on measurement of feeding, primary and secondary productivity, and nutrient flux. Course to be given at the *Catalina Marine Science Center.*
Mr. Muscatine

148. Biology of Marine Plants. (Formerly numbered 101.) Lecture, five hours; laboratory, 15 hours. Prerequisite: Preparation for the Major and consent of instructor. An introducation to the general biology of marine algae: includes basics of structure reproduction, life histories, systematics and an introduction to the physiology and ecology of marine algae. Techniques in culture and laboratory investigation and utilization of algae. Course to be given at the Catalina Marine Science Center. Mr. Chapman

149. Plant Biochemistry and Photosynthesis. Lecture/discussion, four hours. Prerequisite: completion of all courses listed under Preparation for the Major. A survey course emphasizing plant-specific biochemistry, including photosynthesis; nitrogen fixation and metabolism; sulfur metabolism; respiration; plant pigments, lipids, proteins and nucleic acids; the cell wall; terpenes; alkaloids and flavenoids. Mr. Thornber

150. Experimental Phycology and Mycology. Lecture, three hours; discussion, one hour; laboratory, six hours. Prerequisite: course 100 or equivalent or consent of instructor. Study of algae and fungi emphasizing basic concepts in such topics as photobiological phenomena, physiology of growth, nutrition and reproduction; physiological ecology. Laboratory includes isolation and culture techniques and experiments designed to introduce students to a wide range of experimental uses of algae and fungi. Mr. Chapman

152. Functional Plant Anatomy. Lecture, three hours; laboratory, six hours. Prerequisite: completion of all courses listed under Preparation for the Major or consent of the instructor. The structure and functional significance of the various cell and tissue types in higher plants, plus the patterns of growth and differentiation in roots, stems, leaves, flowers, and fruits. Mr. D. Walker

153. Histology. Lecture, three hours; laboratory, four hours. Prerequisite: completion of all courses listed under Preparation for the Major. An introduction to descriptive and functional histology, using light and electron microscope information. Discussion of histological research methods. Mr. Lake (Sp)

154. Functional Ultrastructure of Cells and Tissues. Lecture, three hours; discussion, one hour. Prerequisites: Biolog 4A-4B or 7; Chemistry 21, 22, 24 or equivalent. Basic life processes at the supramolecular and molecular levels of cells. Functional significance of membrane structure, molecular basis of absorption, secretion and muscle contraction. Conventional and advanced methods in ultrastructural analysis, electron microscopy. Interpretations of structural information.
Mr. Sjostrand

155. Analytical Microscopy and Cytology. Lecture, three hours; laboratory, three hours. Prerequisites: Physics 3A-3B-3C or 6A-6B-6C or equivalent or consent of instructor. A course designed for students in the biological sciences to acquaint them with quantitative cytology with emphasis on bright field, dark field, phase contrast, interference, polarization analysis, fluorescence microscopy and epi-illumination. Mr. James

158. Cell Biology. (1½ courses) Lecture, three hours; laboratory, six hours. Prerequisites: completion of all courses listed under Preparation for the Major and Biology M132 or 134 or equivalent (genetics). The cell biology of eukaryotic cells with emphasis on the correlation of structure and function at the molecular, organellar, and cellular levels. Mr. Cascarano, Mr. James, Mr. Simpson

162. Plant Physiology. Lecture, three hours; laboratory, one hour. Prerequisite: completion of all courses listed under Preparation for the Major. Water movement within the plant body and between the plant and its environment. Soil genesis, characteristics and plant-soil interrelations. Salt movement across membranes and through tissues. Hormonal control of growth and development. Photomorphogenesis. Photoperiodism and flowering. Photochemical and physiological aspects of photosynthesis. Mr. Laties, Mr. Thornber (F)

163. Plant Physiology Laboratory. Lecture, one hour; discussion, one hour; laboratory, eight hours. Prerequisite: course 162. Students will be introduced to the instrumentation used in Plant Physiology research by performing experiments based on the lecture material in 162. Subsequently, students working singly or in groups will undertake a research project of their own design. Limited enrollment. The Staff

166. Animal Physiology. (1½ courses) Lecture, three hours; laboratory, five hours. Prerequisite: completion of all courses listed under Preparation for the Major. Normally to be taken after course 158. An introduction to physiological principles with emphasis on organ systems and intact organisms.
Mr. Eckert, Mr. Engelmann, Mr. Narins (F,Sp)

168. Insect Physiology. Lecture, two hours; laboratory, six hours. Prerequisite: course 158 or 166 or the equivalent. Survey of the physiology of insects with emphasis on functional adaptations.
Mr. Engelmann

169. Comparative Physiology. Lecture, three hours; laboratory, four hours. Prerequisites: courses 158 and 166. A detailed analysis of selected aspects of invertebrate and vertebrate physiology.
Mr. Gordon

170. Physiological Ecology of Arthropods. Lecture, three hours; discussion, one hour. Prerequisite: course 166 or equivalent. The physiology of terrestrial arthropods in relation to their distribution and function in natural environments. The Staff

171. Principles of Neurobiology. Lecture, three hours; discussion, one hour. Prerequisite: course 166 or consent of instructor. An introduction to basic principles of neurobiology, including a description of the structure of neurons and nervous systems; the ionic mechanisms responsible for generating membrane potentials, action potentials, and synaptic potentials; the properties of synaptic transmission, the information transduction and coding in sensory pathways, and the neural control of movement; development of and trophic interactions between cells of the nervous system.
Mr. Eckert, Mr. O'Lague

172A-172B. Introductory Laboratory in Neurophysiology. Laboratory, eight hours each. Prerequisite: course 171 or consent of the instructor. Limited enrollment. Laboratory investigation of the function of central and peripheral nervous systems in invertebrates and vertebrates. Emphasis will be on electrophysiological approaches to basic neurophysiological problems. To be taken concurrently. Mr. Eckert, Mr. O'Lague

173. Anatomy and Physiology of Sense Organs. Lecture, three hours; discussion, one hour. Prerequisite: course 171 or the equivalent. The anatomy and physiology of the sense organs. Comparative aspects will be emphasized. Mr. Narins

177. Introductory General Endocrinology. Lecture, three hours, discussion, one hour. Prerequisite: Biochemistry; course 158 or 166 or the equivalent. Principles of chemical integration in biological systems. Ms. Szego

179. Invertebrate Endocrinology. Lecture, three hours. Prerequisite: course 158 or 166 or consent of the instructor. A comprehensive treatment of invertebrate endocrinology. Mr. Engelmann

180. Advanced Topics in General Endocrinology. Lecture, three hours; discussion, one hour. Prerequisite: course 177 or consent of instructor. Detailed consideration of selected mechanisms in endocrine control of growth and differentiation.
Ms. Szego

181. Parasitology and Symbiosis. (1½ courses) Lecture, three hours; laboratory, six hours. Prerequisites: courses 4A-4B or 5 and 7. An introduction to the principles, biology, and evolution of infectiousness, symbiosis, and parasitism, emphasizing protozoan and helminth parasites, including those of man. Mr. MacInnis

182. Experimental Parasitology. Laboratory, eight hours. Prerequisite: consent of the instructor. Introduction to the use of parasites in experiments concerning basic biological problems and to problems concerning parasitism. Mr. MacInnis

184. Mathematical Ideas in Biology. Lecture, three hours; discussion, one hour. Prerequisites: one year of calculus and consent of the instructor. The use of mathematical ideas and analysis in the formulation and evaluation of theories of biological phenomena, such as growth, growth control, biological rate processes and applications of random walk theory. Coverage of topics will be tailored to specific student interests.
Mr. Kavanau

M185. Immunology. (Same as Microbiology M185 and Microbiology and Immunology M185.) Lecture, three hours, discussion, one hour. Prerequisites: Chemistry 23, 25; course M132. Concur-

rent enrollment in Chemistry 152 or 156 is recommended. Introduction to experimental immunobiology and immunochemistry; cellular and molecular aspects of humoral and cellular immune reactions. Mr. Clark, Mr. Sercarz

M186. Immunology Laboratory. (½ course) (Same as Microbiology M186 and Microbiology and Immunology M186.) Laboratory, four hours. Prerequisites: course M185 and consent of the instructor. This course will focus on a limited number of situations designed to train the student in organizing and evaluating immunological laboratory experiments. Must be taken concurrently with Biology M187. Mr. Clark, Mr. Sercarz

M187. Immunology Seminar. (½ course) (Same as Microbiology M187 and Microbiology and Immunology M187.) Discussion, two hours. Prerequisites: course M185 and consent of the instructor. Student presentation of selected papers from the immunology literature. Designed to serve as a forum for the critical analysis of research papers. Must be taken concurrently with Biology M186 (Microbiology M186). Mr. Clark, Mr. Sercarz

188. Seminar on Biology and Society. (½ course) Prerequisite: consent of the instructor. Investigations and discussions of current socially important issues involving substantial biological considerations, either or both as background for policy and as consequences of policy. Mr. Gordon, Ms. Tobin

190A-190D. Honors Research in Biology. (½ to 1 course each) Prerequisites: senior standing and permission of the Undergraduate Advisor. Individual research designed to broaden and deepen the student's knowledge of some phase of Biology. Must be taken for at least two quarters and for a total of at least two courses. Grade will only be given upon completion of 190B. Students may elect to enroll in additional research under 190C-D for a letter grade. A report on progress must be presented to the Undergraduate Advisor each quarter a 190 course is taken. A maximum of eight units of 190 may be used to fulfill the requirements for the Biology major. The Staff (F,W,Sp)

199. Special Studies. (½ to 4 courses) Prerequisites: consent of the instructor and the Undergraduate Adviser. This consent is based on a written proposal outlining the study or research to be undertaken. The proposal should be worked out in consultation with the instructor and submitted for approval to the Biology Undergraduate Adviser before the day instruction begins in that quarter. At the end of the quarter a report describing the progress of the study or research and signed by the student and the instructor must be presented to the Biology Undergraduate Adviser. No limit on credit, but students who wish to carry more than 8 units of 199 in any one quarter must obtain authorization from the departmental chairman and the appropriate dean. Only one 199 course may be used to fulfill the requirements for the Biology major. The Staff (F,W,Sp)

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

BIOMATHEMATICS

(Department Office, AV-111 Center for the Health Sciences)

The department of Biomathematics does not offer an undergraduate degree. The following upper division courses are offered by the department, with enrollment restrictions as indicated.

For detailed information outlining the degree offerings by this department, please refer to the Graduate Catalog.

Upper Division Courses

107. Introduction to Biomathematics in Genetics. Prerequisite: introductory genetics course and consent of instructor. A presentation of mathematical modeling in biology with specific reference to analysis of family data in genetics. Topics include linkage and polygenic inheritance. Ms. Spence

110. Elements of Biomathematics. Prerequisite: calculus. Analysis of deterministic models including some general approaches to the study of homeostasis. Conditions under which deterministic and probabilistic descriptions of biological phenomena are appropriate. Both approaches will be applied to selected examples in epidemiology and enzyme kinetics. Mr. Peskoff and the staff

M134. Human Genetics. (Same as Biology M134.) Prerequisites: Biology 4A-4B, elementary organic chemistry and biochemistry (equivalent to Chemistry 21 and 23 or concurrent registration. Mewdelian principles and the gene, with emphasis on human examples. Topics include mutation at the locus, chromosome, family and population levels; inborn errors of metabolism; ascertainment bias; linkage; X inactivation; gene regulation. Not open to students who have had Microbiology or Biology M132. Mr. Merriam, Ms. Spence

M153. Introduction to Computational Statistics. (Same as Mathematics M153.) Prerequisites: Mathematics 150C or Mathematics 152B or the equivalent. Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, and analysis of categorical data. Emphasis will be on understanding the connection between statistical theory, numerical results, and analysis of real data. The Staff

170A-170B-170C. Selected Biomathematical Topics for Researchers in Medicine and Biology. Prerequisite: none for 170A; for 170B and 170C, elementary calculus. Basic techniques for examination of data, planning of experiments, comparison of theory and experiment. Commonly used models (e.g., compartment, transport) will be developed and used to illustrate the latter. Techniques include use of computer P/NP or letter grade. Ms. Newton

171A-171B. Selected Topics for Dental Researchers. (½ course) Prerequisites: Of particular interest to students in Dentistry. Instruction in critical and efficient reading of the dental literature, experimental designs, analysis of data using BMD programs, and some basic modeling techniques. Review of modern biomathematical techniques in craniofacial research and other areas of interest to dentistry. The Staff

190HA-190HB. Honors Research in Biomathematics. Prerequisites: upper division standing, permission of instructor and chairman. Individual research in some aspect of biomathematics designed to acquaint the student in depth with mathematical models and computer applications in biology. Must be taken for at least two quarters and for a total of at least two courses. A thesis is required for completion of the final course. The Staff

199. Special Studies in Biomathematics. (½ to 2 courses) Prerequisites: upper division standing and consent of the instructor. Special studies in biomathematics, including either reading assignments or laboratory work or both, designed for appropriate training of each student who registers in this course. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

CHEMISTRY

(Department Office, 3010 W.G. Young Hall)

Frank A. L. Anet, Ph.D., *Professor of Chemistry.*
Daniel E. Atkinson, Ph.D., *Professor of Chemistry.*
Mario E. Baur, Ph.D., *Professor of Chemistry.*
Kyle D. Bayes, Ph.D., *Professor of Chemistry.*
Paul D. Boyer, Ph.D., *Professor of Chemistry.*
Orville L. Chapman, Ph.D., *Professor of Chemistry.*
Donald J. Cram, Ph.D., *Professor of Chemistry.*
David S. Eisenberg, Ph.D., *Professor of Molecular Biology in Chemistry.*
Mostafa A. El-Sayed, Ph.D., *Professor of Chemistry.*
Paul S. Farrington, Ph.D., *Professor of Chemistry.*
Christopher S. Foote, Ph.D., *Professor of Chemistry.*
William M. Gelbart, Ph.D., *Professor of Chemistry.*
E. Russell Hardwick, Ph.D., *Professor of Chemistry.*
M. Frederick Hawthorne, Ph.D., *Professor of Chemistry.*
Herbert D. Kaesz, Ph.D., *Professor of Chemistry.*
Daniel Kivelson, Ph.D., *Professor of Chemistry.*
Charles M. Knobler, Ph.D., *Professor of Chemistry.*
William G. McMillan, Jr., Ph.D., *Professor of Chemistry.*
John P. McTague, Ph.D., *Professor of Chemistry.*
Malcolm F. Nicol, Ph.D., *Professor of Chemistry.*
Howard Reiss, Ph.D., *Professor of Chemistry.*
Verne N. Schumaker, Ph.D., *Professor of Molecular Biology in Chemistry.*
Robert L. Scott, Ph.D., *Professor of Chemistry.*
Roberts A. Smith, Ph.D., *Professor of Chemistry.*
Robert V. Stevens, Ph.D., *Professor of Chemistry.*
Kenneth N. Trueblood, Ph.D., *Professor of Chemistry.*
John T. Wasson, Ph.D., *Professor of Geochemistry and Chemistry.*
Charles A. West, Ph.D., *Professor of Chemistry.*
Francis E. Blacet, Ph.D., D.Sc., *Emeritus Professor of Chemistry.*
Clifford S. Garner, Ph.D., *Emeritus Professor of Chemistry.*
Thomas L. Jacobs, Ph.D., *Emeritus Professor of Chemistry.*
Willard F. Libby, Ph.D., *Emeritus Professor of Chemistry.*
James D. McCullough, Ph.D., *Emeritus Professor of Chemistry.*
William G. Young, Ph.D., D.Sc., *Emeritus Professor of Chemistry.*
Eric J. Heller, Ph.D., *Associate Professor of Chemistry.*
John M. Jordan, Ph.D., *Associate Professor of Molecular Biology in Chemistry.*
Michael E. Jung, Ph.D., *Associate Professor of Chemistry.*
Jerome V. V. Kasper, Ph.D., *Associate Professor of Chemistry.*
Charles E. Strouse, Ph.D., *Associate Professor of Chemistry.*
Joan S. Valentine, Ph.D., *Associate Professor of Chemistry.*
Jeffery I. Zink, Ph.D., *Associate Professor of Chemistry.*
John A. Gladysz, Ph.D., *Assistant Professor of Chemistry.*
Jay D. Gralla, Ph.D., *Assistant Professor of Chemistry.*
Steven G. Clarke, Ph.D., *Assistant Professor of Chemistry.*
Harold G. Martinson, Ph.D., *Assistant Professor of Chemistry.*
Joseph R. Murdoch, Ph.D., *Assistant Professor of Chemistry.*
Emil Reisler, Ph.D., *Assistant Professor of Chemistry.*
Robert M. Sweet, Ph.D., *Assistant Professor of Chemistry in Residence.*
Richard L. Weiss, Ph.D., *Assistant Professor of Chemistry.*

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Sandra I. Lamb, Ph.D., *Lecturer in Chemistry.*
Lawrence H. Levine, Ph.D., *Lecturer in Chemistry.*
Arlene A. Russell, M.A., *Lecturer in Chemistry.*

Admission to Courses in Chemistry

Regular and transfer students who have the prerequisites for the various courses are not thereby assured of admission to those courses. The Department may deny admission to any course if a grade D was received in a course prerequisite to that course, or if in the opinion of the Department the student shows other evidence of inadequate preparation.

A student may not repeat a chemistry course if that student has credit for a more advanced course which has the first course as a prerequisite.

Preliminary Examination in Chemistry

Students who wish to enroll in course 11A or in course 11AH must take the Chemistry/Mathematics Preliminary Examination in Chemistry *during the enrollment period for the quarter in which they intend to enroll in these courses.* Enrollment usually will be limited to students who have passed the examination. During 1980-1981, the Preliminary Examination is scheduled on September 22, 1980, for the Fall

NOTE: For key to symbols, see pages 65 and 66

Quarter; January 7, 1981, for the Winter Quarter; and April 1, 1981 for the Spring Quarter. These dates may be changed. The time and location of the examination will be posted on the First Year Chemistry Bulletin Board located near Room 1054 in W.G. Young Hall (Chemistry Building) about two weeks before the announced date of the examination.

The Majors in Chemistry

There are three majors available to the student interested in Chemistry: the regular Chemistry major, the Biochemistry major, and the General Chemistry major. Each of these programs is outlined below. Students may contact Dorothy Seymour, Undergraduate Counselor, for help and advice in the Chemistry Undergraduate Office, Room 4016 W.G. Young Hall.

Courses taken to fulfill any of the requirements for any of the Chemistry Department's majors must be taken for a letter grade and not Pass/Not Pass. Seminar courses, individual study courses, and research courses (e.g., 190, 199) may not be used to satisfy the requirements for the major in Chemistry, Biochemistry, or General Chemistry.

CHEMISTRY MAJOR

For students who intend to pursue a career in chemistry.

Preparation for the Major

Required: Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25; Physics 8A, 8B, 8C (8D, strongly recommended); Mathematics 31A, 31B, 32A, 32B, 33A (or 31A, 31B, 31C, 32A, 32C). No specific foreign language is required; however, a reading knowledge of German (at least at the level of German 3) is strongly recommended for students planning to pursue graduate work in Chemistry.

The Major

Chemistry 110A, 110B, 113A, 114 (or 114H), 133A, 133B, 133C, 173, and two other upper division or graduate courses in chemistry including at least one laboratory course selected from 136, 144, 154, 174, and 184.

BIOCHEMISTRY MAJOR

The major in Biochemistry is intended for students preparing for careers in biochemistry or in other fields requiring extensive preparation in both chemistry and biology.

Preparation for the Major

Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25 Mathematics 31A, 31B, 32A, 33A (or 31A, 31B, 31C and either 32A or 32C); three courses from Physics 6A*, 6B, 6C, 8A, 8B, 8C, 8D; Biology 5, 8, and 8L.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

The Major

Chemistry 133A, 133B, 133C, 110A, 156, 157A, 157B, and 154; plus one course from each of the following five categories: 1) Microbiology 101; 2) One course from Biology 134, 137, 138, 140, 141, 153, 154, Microbiology 111; 3) One course from Biology 158, 162, 166, Microbiology 113; 4) One upper division or graduate level course in Biology, Bacteriology, or Biological Chemistry; 5) One upper division or graduate level course in Biology, Bacteriology, Chemistry, Biological Chemistry, Mathematics, or Physics. Courses chosen to satisfy categories 4 and 5 must be approved by the Biochemistry Undergraduate Adviser.

GENERAL CHEMISTRY MAJOR

The major in General Chemistry is intended for students who wish to acquire considerable chemical background in preparation for careers outside chemistry. The requirements are accordingly quite flexible. It may be appropriate for some students who plan to enter professional schools, such as those of medicine, dentistry, or public health.

Preparation for the Major

Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23, 25; Mathematics 31A, 31B, 32A, 33A (or 31A, 31B, 31C, and either 32A or 32C); three courses from Physics 6A*, 6B, 6C, 8A, 8B, 8C, 8D.

*If physics courses from both the 6 and 8 series are taken, undue duplication must be avoided.

The Major

Six upper division courses in chemistry, including at least one in physical chemistry and at least two with laboratory work; six additional upper division courses. A 2.0 average is required in all upper division chemistry courses. The program should be coherent in terms of the student's interests and objectives, and must be based on a written proposal and approved by the Chemistry Undergraduate Adviser.

Transfer Students

Transfer students with more than 84 quarter units will be accepted into the Chemistry Department majors only if they have completed the equivalent of Chemistry 11A, 11B, 11BL, 11C, 11CL and Mathematics 31A, 31B, 32A. *Recommended: Organic Chemistry; one year of calculus-based physics.*

An entering transfer student who has satisfactorily completed a year course (including laboratory) in general college chemistry, intended for science and engineering students, should enter course 21. Transfer students should consult the Chemistry Undergraduate Office for assistance in planning their programs.

Lower Division Courses

2. Introductory Chemistry. Lecture and discussion, four hours. This course is designed to meet part of the College of Letters and Science requirements for non-science majors and similar requirements in other colleges. The course deals with the concept of the submicroscopic world of Chemistry, and ranges from protons to proteins in subject matter. This course is not open to students who have received credit for Chemistry 11A. Refer to College of Letters and Science section of this catalog for other credit limitations on this course.

Mr. Farrington, Mr. Hardwick (F,W, Sp)

11A. General Chemistry. Lecture, four hours; discussion, one hour. Prerequisites: High school chemistry or equivalent background and three and one-half years of high school mathematics. High school physics recommended. (Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination.) All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination that is normally given within 10 days before instruction begins. Enrollment is usually limited to students who have passed that examination. Students appearing for the examination must be prepared to identify themselves. This course as well as some of the succeeding first-year courses (11B, 11BL, 11C, 11CL), are required of all majors in chemistry and biochemistry and many other fields of science and technology. Atomic theory and stoichiometry; states of matter and phase equilibrium; gases; liquids and solutions; acids, bases, and salts; equilibria in gases and solutions; solubility and solubility equilibria; oxidation and reduction.

Mr. Baur, Mr. Hardwick.
Mr. Trueblood (F,W,Sp)

11AH. General Chemistry—Honors Sequence. Lecture, four hours; discussion, one hour. Prerequisites: high school chemistry or equivalent background and three and one-half years of high school mathematics. High school physics recommended. (Students lacking the prerequisites may qualify for admission by exceptional performance on the Chemistry/Mathematics Preliminary Examination.) All students who intend to take this course must take the Chemistry/Mathematics Preliminary Examination that is normally given within 10 days before instruction begins. Enrollment is usually limited to students who have passed that examination. An honors course parallel to course 11A.

Mr. Gelbart, Mr. Knobler (F)

11B. General Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 11A/11AH with grade C− or higher or consent of instructor. Thermochemistry and thermodynamics; electrochemistry; chemical kinetics; quantum theory and electronic structure of atoms; periodicity of chemical properties.

Mr. Kivelson, Mr. Kaesz,
Mr. McTague (F,W,sp)

11BH. General Chemistry—Honors Sequence. Lecture, three hours; discussion, one hour. Prerequisites: course 11AH with grade B− or higher, or course 11A and consent of instructor. An honors course parallel to course 11B. Mr. McMillan (W)

11BL. General Chemistry Laboratory. (¼ course) Laboratory, four hours. Prerequisites: course 11A with grade C− or higher, or consent of instructor. Course 11B must be taken concurrently or must already have been passed with a grade of C− or higher. Enrollment priority, if needed, will be given to those taking 11B concurrently. Use of the balance; volumetric techniques; equilibria; thermochemistry; and quantitative analysis using volumetric and potentiometric procedures; Beer's Law.

The Staff in Freshman Chemistry (F,W,Sp)

11C. General Chemistry. (¾ course) Lecture, two hours. Prerequisite: course 11B/11BH with grade C− or higher or consent of instructor. Bonding and molecular structure; descriptive inorganic chemistry, presented in terms of the principles discussed in courses 11A and 11B.

Mr. Hawthorne, Mr. Kaesz, Mr. Zink (F,W,Sp)

11CH. General Chemistry—Honors Sequence. (¾ course) Lecture, two hours. Prerequisites: course 11BH with grade B− or higher, or course 11B and consent of instructor. An honors course parallel to course 11C. Mr. El−Sayed, Mr. Kasper (Sp)

11CL. General Chemistry Laboratory. (½ course) Laboratory, eight hours. Prerequisites: course 11BL with grade C− or higher. Course 11C must be taken concurrently or must already have been passed with grade C− or higher. Enrollment priority, if needed, will be given to those taking 11C concurrently. Rates of reactions; quantitative volumetric analysis; qualitative inorganic analysis; inorganic synthesis; column chromatography; colorimetric analysis.

The Staff in Freshman Chemistry (F,W,Sp)

15. Organic and Biochemistry for Prenursing and Kinesiology. Lecture and discussion, four hours. Prerequisite: course 11A with grade C− or higher. Recommended for students in certain areas of kinesiology and in the prenursing, pre-physical therapy and pre-dental hygiene curricula. An introduction to the structures and reactions of organic compounds, particularly with respect to their roles and their transformations in living systems. This course does not meet requirements for admission to medical or dental school, nor does it satisfy the requirements of any major in the College of Letters and Science other than certain areas of Kinesiology. (F)

15L. Chemistry Laboratory for Prenursing and Kinesiology. (¼ course) Laboratory, four hours. Prerequisite: course 15 must be taken concurrently or must already have been completed with grade C− or higher. An introduction to quantitative work with aqueous solutions and to the preparation, isolation, and characterization of organic compounds, particularly some of those important in living systems. This course does not meet requirements for admission to medical or dental school. (F)

21. Organic Structure and Reactions. Lecture and discussion, four hours. Prerequisite: courses 11C and 11CL (11CL may be taken concurrently) with grades C− or higher, or consent of instructor. Structure, reactivity, and properties of organic compounds. The theory of functional groups, chemical

bonds, molecular structure, and stereochemistry of organic compounds.

Mr. Cram, Ms. Murdoch, Mr. Stevens (F,W,Sp)

23. Bioorganic Structure and Reactions. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisite: courses 11CL and 21 with grades C− or higher, or consent of instructor. Organic structures and reactions of biochemical interest. The classes of compounds most important to biological functions: amino acids, carbohydrates, etc. Sulfur, phosphorous, and anhydride chemistry. Methods of separation, purification and analysis of organic compounds: extraction, crystallization, distillation, and chromatography.

Mr. Clarke, Ms. Lamb, Mr. Stevens

25. Elementary Biochemistry. Lecture, three hours; discussion, one hour; laboratory, four hours. Prerequisite: course 23 with grade C− or higher, or consent of instructor. Protein structure and function; enzyme catalysis; intermediary metabolism; cell constituents; properties and biosynthesis of nucleic acids and proteins. Purification and characterization of biological macromolecules; spectrophotometry; catalysis; enzyme kinetics; gel filtration and paper chromatography; viscosity; utilization of radioisotopes.

Mr. Atkinson, Mr Gralla, Mr. Weiss (F,W,Sp)

96. Special Courses in Chemistry. (¼ to 1 course) To be arranged. Prerequisite: consent of the Chemistry Undergraduate Advisor.

The Staff (F,W,Sp)

Upper Division Courses

103. Environmental Chemistry. Lecture, four hours. Prerequisites: courses 21, 23, 25, or consent of the instructor. Chemical aspects of air and water pollution, solid waste disposal, energy resources, and pesticide effects. Chemical reactions in the environment, and the effect of chemical processes on the environment. Mr. Baur (Sp)

110A. Physical Chemistry: Chemical Thermodynamics. Lecture four hours; discussion, one hour. Prerequisites: courses 11C, Physics 8B or 6C (may be taken concurrently), Mathematics 31A, 31B, 32A (or 31C) or, for life science majors, Mathematics 3C. (An understanding of partial differentiation such as that obtained in Mathematics 32A or 3C is very desirable.) Properties of gases; laws of thermodynamics; free energy; entropy; chemical potential and chemical equilibrium; thermodynamics of solutions.

Mr. Baur, Mr. McMillan, Mr. Nicol (F,W,Sp)

110AG. Physical Chemistry: Chemical Thermodynamics. Lecture four hours; discussion, one hour. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 110A in this institution.

Mr. McTague, Mr. Reiss, Mr. Trueblood (F,W,Sp)

110B. Physical Chemistry: Chemical Equilibrium, Electrochemistry, and Kinetics. Lecture four hours; discussion, one hour. Prerequisites: course 110A, Physics 8C. Introduction to statistical thermodynamics, kinetic theory of gases, chemical kinetics, phase equilibria, chemical equilibria in solutions, electrochemistry.

Mr. McTague, Mr. Trueblood (W,Sp)

110BG. Physical Chemistry: Chemical Equilibrium, Electrochemistry, and Kinetics. Lecture, four hours; discussion, one hour. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 110B in this institution.

Mr. McMillan, Mr. Scott (W,Sp)

110C. Physical Chemistry: Charges, Fields and Matter. Lecture and discussion, four hours. Prerequisite: course 110A. A selection of topics from: Electromagnetic fields in matter—susceptibilities, molar polarization and refraction, multipoles, van der Waals forces; classical EM waves—propagation, refraction, scattering, absorption, optical rotation and rotatory dispersion, magnetic effects; Radiation—multipoles, black-body, Einstein coefficients, lasers; Scattering and diffraction—Rayleigh, Mie, Raman, X-ray, electron, neutron, nuclear—by particles, molecules, lattices; resonance phenomena—light, EPR, NMR, NQR, Mössbauer; Electrolytes—ion activity, conductivity, rate effects.

Mr. McMillan (Sp)

113A. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Prerequisite: courses 11C, Physics 6C or 8C, Mathematics 31A, 31B, 32A, 33A (or 31C *and* 32C) An introduction to the principles and applications of quantum chemistry; atomic structure and spectra; harmonic oscillator; rigid rotor, molecular spectra. Mr. Gelbart, Mr. McTague (F,Sp)

113B. Physical Chemistry: Introduction to Molecular Spectroscopy. Lecture, four hours; discussion, one hour. Prerequisites: course 113A or equivalent. Spectroscopic applications of basic quantum chemistry, including light-matter interaction, origin of selection rules, rotation-vibration spectra, anharmonic effects, electronic spectra, Franck-Condon principle, and topics from Raman, microwave, ESR, NMR, laser spectroscopy and radiationless transitions. Mr. Nicol (W)

113G. Physical Chemistry: Introduction to Quantum Chemistry. Lecture, four hours; discussion, one hour. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 113 at this institution.

Mr. Heller, Mr. Kasper (F,Sp)

114. Physical Chemistry Laboratory. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 11CL, 110A, 110B, and 113A or consent of the instructor. Lecture: techniques of physical measurement, error analysis and statistics, special topics. Laboratory: spectroscopy, thermodynamic measurements, and chemical dynamics.

Mr. Bayes, Mr. Kasper, Mr. Scott (F,W,Sp)

114H. Physical Chemistry Laboratory - Honors Course. Lecture, 2 hours; laboratory, eight hours. Prerequisites: 11CL, 110A, 110B, and 113A with grade of B or better, or consent of instructor. Lecture: techniques of physical measurement, error analysis and statistics, special topics. Laboratory: topics in physical chemistry to be selected in consultation with the instructor.

Mr. Bayes, Mr. Nicol, Mr. Strouse

115A-115B. Quantum Chemistry. Lecture, four hours. Prerequisites: course 113A, Mathematics 31A, 31B, 32A, 32B, 33A (or 31C *and* 32C). Recommended: Knowledge of differential equations equivalent to Mathematics 135A or Physics 131 and of analytic mechanics equivalent to Physics 105A. Course 115A or Physics 115B is prerequisite for course 115B. Postulates and systematic development of nonrelativistic quantum mechanics; expansion theorems; wells; oscillators; angular momentum; hydrogen atom; matrix techniques; approximation methods; time dependent problems; atoms; spectroscopy; magnetic resonance; chemical bonding. Students entering course 115A will normally be expected to take course 115B the following quarter. These two courses are designed for chemistry students with a serious interest in quantum chemistry. Mr. Gelbart, Mr. Reiss (115A-W; 115B-Sp)

[1]121. Special Topics in Physical Chemistry. Lecture, four hours. Prerequisite: course 110B (113A and Physics 8D recommended). Each offering of the course covers several topics that are of considerable research interest, and will be presented at a level suitable for students who have completed the Junior year courses in physical chemistry. (Sp)

123A-123B. Classical and Statistical Thermodynamics. Prerequisite: course 110B or 156 (113A recommended). Rigorous presentation of the fundamentals of classical thermodynamics. Principles of statistical thermodynamics: probability, ensembles, partition functions, independent molecules and the perfect gas. Applications of classical and statistical thermodynamics selected from diatomic polyatomic gases, the solid and fluid states, phase equilibria, electric and magnetic effects, ortho-para hydrogen, chemical equilibria, reaction rates, the imperfect gas, non-electrolyte and electrolyte solutions, surface phenomena, high polymers, gravitation.

Mr. Gelbart, Mr. Knobler, Mr. Scott (F,W)

[5]125. Computers in Chemistry. Lecture, three hours. Prerequisites: courses 110A, 110B, 113, and a working knowledge of FORTRAN IV or PL/1. Discussion of computer techniques, including matrix manipulation, solution of differential equations, data acquisition and instrumental control, and their applications to chemical problems in quantum mechanics, thermodynamics, and kinetics.

Mr. Kasper, Mr. Levine (F)

133A. Intermediate Organic Chemistry. Lecture and quiz, three hours; laboratory, four hours. Prerequisities: courses 21, 23, 25 (25 may be taken concurrent) with grades C or higher, or consent of instructor. Lecture: Structure, reactivity and spectroscopic properties of organic compounds. Laboratory: Methods of organic reactions, synthesis, isolation and characterization.

Mr. Chapman, Mr. Murdoch (F,W)

133AG. Intermediate Organic Chemistry. (½ course) Lecture and quiz, three hours. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 133A in this institution.

Mr. Chapman, Mr. Murdoch (F,W)

133B. Intermediate Organic Chemistry. Lecture and quiz, three hours; laboratory, four hours. Prerequisite: course 133A with grade C− or higher. Lecture: Reactions, mechanisms and synthesis in organic chemistry; common classes of compounds and reactions. Laboratory: Methods of organic reactions, synthesis, isolation and characterization.

Mr. Chapman, Mr. Murdoch (W,Sp)

133BG. Intermediate Organic Chemistry. (½ course) Lecture and quiz, three hours. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 133B in this institution.

Mr. Chapman, Mr. Murdoch (W,Sp)

133C. Intermediate Organic Chemistry. Lecture and quiz, three hours; laboratory, four hours. Prerequisite: course 133B with grade C− or higher. Lecture: Reactions, mechanisms and synthesis in organic chemistry; complex molecules and natural products; polymers. Laboratory: Methods of organic reactions, synthesis, isolation and characterization. Mr. Chapman, Mr. Murdoch (F,Sp)

133CG. Intermediate Organic Chemistry. (½ course) Lecture and quiz, three hours. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 133C in this institution.

Mr. Chapman, Mr. Murdoch (F,Sp)

136. Organic Structural Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 133A, 133B, 133C, or equivalent, with grades of C− or higher, or consent of instructor. A laboratory course in organic structure determination by chemical and spectroscopic methods; microtechniques. Mr. Foote (F)

143A. Structure and Mechanism in Organic Chemistry. Lecture three hours, discussion, one hour. Prerequisite: courses 133C (may be taken concurrently), 110B, 113A, or equivalent, with grade of C− or higher, or consent of instructor. Mechanisms of organic reactions. Acidity and acid catalysis; linear free energy relationships; isotope effects. Molecular orbital theory; photochemistry; pericyclic reactions. Mr. Gladysz (F)

143B. Mechanism and Structure in Organic Chemistry. Lecture, three hours; discussion, one hour. Prerequisite: course 143A with grade C− or higher, or consent of instructor. Mechanisms of organic reactions, structure and detection of reactive intermediates. Mr. Anet (W)

144. Laboratory Methods in Organic Synthesis. Lecture, two hours; laboratory, eight hours. Prerequisite: course 133C, or equivalent instruction including spectroscopic methods of organic chemistry, with grade of C− or higher or consent of

NOTE: For key to symbols, see pages 65 and 66

instructor. Laboratory methods of synthetic organic chemistry including reactions under inert atmosphere, semimicro-scale reaction techniques, synthesis of natural products and molecules of theoretical interest. Mr. Jung (Sp)

144G. Laboratory Methods in Organic Synthesis. (½ course) Lecture, two hours. Consists of the lecture portion *only* of course 144. Open only by consent of the Chemistry Graduate Adviser to graduate students who have not taken course 144 in this institution and who do not wish to take the laboratory of course 144. Mr. Jung (Sp)

152. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 25. Survey of biochemistry. May not be used in the Chemistry or Biochemistry major. Mr. Boyer (F)

154. Biochemical Methods. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course 25; course 157A or 152 recommended. Applications of biochemical procedures to metabolic reactions; properties of living systems; enzymes; proteins; nucleic acids and other tissue constituents.
Mr. Gralla, Mr. Jordan, Mr. Schumaker, (F,W,Sp)

156. Physical Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 110A. Solution thermodynamics and electrochemistry of biochemical systems; enzyme kinetics; physical biochemistry of proteins and membranes.
Mr. Eisenberg, Mr. Reisler, Mr. Schumaker (F,Sp)

157A. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisites: course 156, 133B (133B may be taken concurrently). Enzymes; metabolic pathways and their integration and regulation; biological energetics.
Mr. Atkinson, Mr. Jordan (W)

157B. Biochemistry. Lecture, four hours; discussion, one hour. Prerequisite: course 157A. Biosynthetic metabolism; synthesis of nucleic acids and proteins, and control of these processes.
Mr. Atkinson, Mr. Clarke, Mr. Jordan (Sp)

173. Structural Inorganic Chemistry. Lecture, three hours. Prerequisites: courses 113A, 110A (may be taken concurrently); 133B recommended. Introductory survey of structure and bonding in inorganic compounds; molecular stereochemistry; donor-acceptor interactions; coordination compounds of the transition metals; elements of crystal field and ligand field theory.
Mr. Hawthorne, Mr. Kaesz, Mr. Zink (F,Sp)

174. Inorganic and Metalorganic Laboratory Methods. Lecture, two hours; laboratory, eight hours. Prerequisites: courses 173, 133A, or consent of the instructor. Synthesis of inorganic compounds including air-sensitive materials; dry-box, vacuum line and high-pressure techniques; Schlenck methods; chromatographic and ion exchange separations. Mr. Hawthorne, Mr. Kaesz (W)

175. Inorganic Reaction Mechanisms. Lecture and quiz, three hours. Prerequisites: courses 110A, 110B and 113 or consent of the instructor. Survey of inorganic reactions; mechanistic principles; electronic structure of metal ions; transition-metal coordination chemistry; inner- and outer-sphere and chelate complexes; substitution, isomerization and racemization reactions; stereochemistry; oxidation – reduction, free – radical, polymerization and photochemical reactions of inorganic species. Mr. Hawthorne (Sp)

176. Group Theory and Applications to Inorganic Chemistry. Lecture, three hours. Prerequisites: courses 113A, 173. Group theoretical methods; molecular orbital theory; ligand field theory; electronic spectroscopy; vibrational spectroscopy.
Mr. Zink (F)

184. Chemical Instrumentation. Lecture and quiz, two hours; laboratory, eight hours. Prerequisite: course 110A. Theory and practice of instrumental techniques /of chemical and structural analysis including atomic absorption spectroscopy, gas chromatography, mass spectrometry, nuclear magnetic resonance, polarography, x-ray fluorescence and other modern methods.
Mr. Strouse, Mr. Wasson (F,Sp)

190A-190ZZ. Undergraduate Thesis Research. Prerequisite: two quarters of chemistry 199A-ZZ on related material and approval of the Undergraduate Adviser and Research Director. Final quarter of an integrated one-year research project. Can consist of experimental and/or theoretical research or, in some cases, a comprehensive review of a given area. A thesis embodying the totality of the year's work is to be submitted, and an oral presentation will be made. This course is suggested, but not required, for those seeking departmental honors at graduation. The Staff (F,W,Sp)

196. Special Courses in Chemistry. (½ to 1 course) To be arranged. Prerequisite: consent of the Chemistry Undergraduate Adviser.
The Staff (F,W,Sp)

199A-ZZ. Directed Individual Study or Research for Undergraduate Students. (½ to 2 courses) To be arranged with individual faculty members involved. Each faculty member has a unique letter designation, which is the same for the 199 and 599 series. Prerequisite: advanced Junior standing and 3.0 GPA in the major, or Senior standing, and consent of the Chairman of the Department of Chemistry. This consent must be based upon a written proposal outlining the study or research to be undertaken. The proposal should be worked out in consultation with the faculty member involved and submitted at the Chemistry Undergraduate Adviser's Office before the first day of the quarter. At the close of each quarter, a report describing the student's program of study or research and signed by the student and supervising faculty member must be submitted to the Chemistry Undergraduate Adviser, who should be consulted concerning the format of the report and deadlines for submission. A maximum of three 199 courses may be taken. Pass/Not Pass grades are used for this course. Approval of other than four units per quarter is allowed only under unusual circumstances.
The Staff (F,W,Sp)

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

CLASSICS

(Department Office, 7349 Bunche Hall)

Philip Levine, Ph.D., *Professor of Classics.*
Bengt T.M. Lofstedt, Ph.D., *Professor of Mediaeval Latin.*
Jaan Puhvel, Ph.D., *Professor of Classics and Indo-European Studies.*
Milton V. Anastos, Ph.D., *Emeritus Professor of Byzantine Greek and History.*
Paul A. Clement, Ph.D., *Emeritus Professor of Classics and Classical Archaeology.*
Herbert B. Hoffleit, Ph.D., *Emeritus Professor of Classics.*
Albert H. Travis, Ph.D., *Emeritus Professor of Classics.*
Steven Lattimore, Ph.D., *Associate Professor of Classics and Classical Archaeology (Chairman of the Department).*
Ann L.T. Bergren, Ph.D., *Associate Professor of Classics.*
Andrew Dyck, Ph.D., *Assistant Professor of Classics.*
Bernard Frischer, Ph.D., *Assistant Professor of Classics.*
Michael W. Haslam, Ph.D., *Assistant Professor of Classics.*
Katharine King, Ph.D., *Assistant Professor of Classics.*

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Helen F. Caldwell, M.A., *Senior Lecturer in Classics, Emerita.*
Barbara E. Killian, M.A., *Lecturer in Classics.*
Evelyn V. Mohr, M.A., *Lecturer in Classics.*

Major Fields in the Department

The student may take the major in Greek, in Latin, or in the Classics (i.e., Greek and Latin); the Department has submitted for University approval a proposal for a major in Classical Civilization. Students considering a major in the Department should consult the adviser as soon as possible in their University career, but in no case later than the point at which they are about to take upper division courses.

Preparation for the Major

Required: Greek 1, 2, 3 and Latin 1, 2, 3, or the equivalent.

The Major

Greek. Required: (1) nine upper division courses in Greek, including Greek 110; (2) one upper division course in Latin; (3) Classics 142 and either Classics 141 or 143; (4) two courses in Greek or Roman History (History 115B-115C, 116A-116B, 117A-117B); (5) two additional courses in one or two of the related areas, classical archaeology (Classics 151A-151B-151C-151D), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A-166B), ancient philosophy (Philosophy 101, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170A-M170B), medieval Latin literature (Latin 131, 133). Total required: 16 courses.

Latin. Required: (1) nine upper division courses in Latin, including Latin 110; (2) one upper division course in Greek; (3) Classics 143 and either Classics 141 or 142; (4) two courses in Greek or Roman history (History 112A-112B, 113A-113B, 111B-111C); (5) two additional courses in one or two of the related areas, classical archaeology (Classics 151A-151B-151C-151D), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168). Greek and Roman religion (Classics 166A-166B), ancient philosophy (Philosophy 101, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170A-M170B), medieval Latin literature (Latin 131, 133). Total required: 16 courses.

The Major

Classics. (Greek and Latin): Required (1) twelve upper division courses, six in Greek and six in Latin, including Greek 110 and Latin 110; (2) one of Classics 141, 142, 143; (3) one course in Greek or Roman history (History 112A-112B, 113A-113B, 111B-111C); (4) one additional course in two of the related areas, classical archaeology (Classics 151A-151B-151C, 151D), classical linguistics (Classics 180), classical mythology (Classics 161, 162, 168), Greek and Roman religion (Classics 166A-166B), ancient philosophy (Philosophy 101, 102, Greek 121, 122, 123, 124), Byzantine civilization (Classics M170A-170B) medieval Latin literature (Latin 131, 133). Total required: 16 courses.

Note: Students in any of the three majors are permitted to take Greek 200A-200B-200C and Latin 200A-200B-200C (see Graduate Catalog). *Two* of these courses may be counted as replacing *one* course in Requirement 3 of the Greek and Latin majors and Requirement 2 of the Classics major, as well as two courses in Requirement 1 of all three majors, thereby reducing the total number of required courses by one.

JOINT MAJOR FIELDS WITH OTHER DEPARTMENTS

English-Greek

Preparation for the Major

English 2, 10A, 10B, 10C; Greek 1, 2, 3.

The Major

(1) Seven courses selected from English 140-190 in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Greek, including 100 and either 101A or 101B, chosen in consultation with an adviser in the Department of Classics: of these seven courses at least two will be in poetry and two in prose. Total required: 14 courses.

English-Latin

Preparation for the Major

English 2, 10A, 10B, 10C; Latin 1, 2, 3.

The Major

(1) Seven courses selected from English 140-190 in consultation with an adviser in the Department of English; (2) seven upper division or graduate courses in Latin, including 105A and 113, chosen in

consultation with an adviser in the Department of Classics; of these seven courses, at least two will be in poetry and two in prose. Total required: 14 courses.

Courses Which Do Not Require a Knowledge of Greek or Latin

Classics 10, 20, M70, 141, 142, 143, 150, 151A, 151B, 151C, 161, 162, 166A, 166B, 168, M170A, M170B.

Classics

Lower Division Courses

10. Survey of Classical Greek Culture. Lectures, many illustrated, on Greek life and culture from the age of Homer to the Roman conquest. Discussion of art, literature, philosophy, and mythology. Readings in the Greek authors are suggested, but not required. A knowledge of Greek is not required. Mr. Lattimore

20. Survey of Roman Civilization. A study of life and culture of Rome from the time of its foundation to the end of antiquity. A survey of art, literature, and political thought of the Romans. Selections from Latin authors are read in translation. A knowledge of Latin is not required. Mr. Frischer

M70. Survey of Mediaeval Greek Culture. (Formerly numbered 145A. Same as History M70.) Classical roots and mediaeval manifestation of Byzantine civilization; political theory, Roman law, pagan critique of Christianity, literature, theology, and contribution to the Renaissance (including the discovery of America). Mr. Dyck

Upper Division Courses

141. A Survey of Greek Literature in English. A study of classical Greek literature, exclusive of the drama, with readings in English. Ms. Bergren, Mr. Haslam

142. Ancient Drama. A study of the major Greek and Latin dramas in translation. Mr. Dyck, Mr. Haslam

143. A Survey of Latin Literature in English. A study of classical Latin literature, exclusive of the drama, with readings in English. Mr. Dyck, Mr. Frischer

150. The Female in Antiquity. Lecture, three hours. An interdisciplinary analysis of the status of women in antiquity, Myth, art, literature and historical sources are studied through current anthropoligical and psychoanalytic methodology. Special emphasis on the concept of the female in Classical thought. Ms. Bergren

151A. Classical Archaeology: Graeco-Roman Architecture. A general introduction to the study of Aegean, Greek, and Roman architecture. Mr. Lattimore

151B. Classical Archaeology: Graeco-Roman Sculpture. A general introduction to the study of Aegean, Greek, and Roman sculpture. Mr. Lattimore

151C. Classical Archaeology: Graeco-Roman Painting. A general introduction to the study of Aegean, Greek, and Roman painting. Mr. Lattimore

151D. Classical Archaeology: The Aegean Bronze Age. The course is a survey of the prehistoric art and archaeology of the Greek lands. A knowledge of Greek is not required. The Staff

161. Introduction to Classical Mythology. The origins of classical myth; the substance of divine myth and heroic saga; the place of myth in religion; a survey of the study of classical mythology. Ms. Bergren, Mr. Lattimore, Mr. Puhvel

162. Classical Myth in Literature. The use of myth in the principal authors and genres of Greek and Roman literature with examples of its influence in later literatures. Ms. Bergren, Mr. Lattimore

166A. Greek Religion. A study of the religion of the ancient Greeks. Mr. Dyck

166B. Roman Religion. A study of the religion of the ancient Romans. Mr. Puhvel

168. Introduction to Comparative Mythology. Prerequisite: course 161 or consent of the instructor. The religious, mythical, and historical traditions of Greece and Rome compared with each other and with those of other ancient Near Eastern and European societies. Mr. Puhvel

M170A. Byzantine Civilization. (Same as History M122A.) Emphasis is laid on Byzantine Theology. Mr. Dyck

M170B. Byzantine Civilization. (Formerly numbered 145C.) (Same as History M122B.) Literature, relations with Rome, and the Renaissance. Mr. Dyck

180. Introduction to Classical Linguistics. Prerequisites: Greek 3 and Latin 3. Basics of the comparative grammar of Greek and Latin in relation to one another and in the frame of Indo-European linguistics. Mr. Puhvel

199. Special Studies in Classics. (½ to 2 courses) Prerequisites: senior standing and consent of the instructor.

Greek

Lower Division Courses

1. Elementary Greek. Lecture, five hours per week. The Staff

2. Elementary Greek. Lecture, five hours per week. Prerequisite: course 1. The Staff

3. Elementary Greek. Lecture, five hours per week. Prerequisite: course 2. The Staff

10. Elementary Modern Greek. An introduction designed to teach the student to pronounce correctly, understand, speak, and write with some facility the language of everyday life. Comparisons with Ancient Greek are made. Not intended for native or near-native speakers of Modern Greek. The Staff

11. Intermediate Modern Greek. Prerequisite: Greek 10 or consent of the instructor. Drill in pronunciation and grammatical patterns. Building-up of vocabulary. Easy readings in literature. The Staff

12. Advanced Modern Greek. Prerequisite: Greek 11 or consent of the instructor. Conversation and composition. A survey of the structure of the language. The Staff

40. The Greek Element in English. A knowledge of Greek is not required. A study of the derivation and usage of English words of Greek origin: analysis into their component elements directed toward understanding of form and meaning. Mrs. Killian

Upper Division Courses

Note: Greek 3 is prerequisite to 100. Greek 100 is prerequisite to 101-107 and 111-124, and prerequistie or corequisite to 110.

100. Readings in Greek Prose. Prerequisite: Greek 3. Plato's *Apology* or a text of comparable difficulty is read. The Staff

101A. Homer: *Odyssey.* **Ms. Bergren, Ms. King, Mr. Puhvel**

101B. Homer: *Iliad.* Ms. Bergren, Ms. King, Mr. Puhvel

102. Lyric Poets. Selections from Archilochus to Bacchylides. Ms. Bergren, Mr. Haslam

103. Aeschylus. Ms. Bergren, Mr. Haslam

104. Sophocles. Mr. Haslam, Mr. Lattimore

105. Euripides. Mr. Frischer, Mr. Haslam, Ms. King

106. Aristophanes. The Staff

107. Theocritus. Mr. Frischer, Mr. Lattimore

110. The Study of Greek Prose. Work in sight reading and grammatical analysis of Attic prose texts; writing the Attic prose. Mr. Haslam

111. Herodotus. Ms. Bergren, Mr. Lattimore

112. Thucydides. Mr. Haslam, Mr. Lattimore

113. Attic Orators. Mr. Dyck, Mr. Haslam

121. Plato. Mr. Frischer, Ms. King

122. Plato: *Republic.* Ms. Bergren, Mr. Haslam

123. Aristotle: *Poetics and Rhetoric.* Mr. Haslam

124. Aristotle: *Ethics.* Mr. Dyck, Mr. Frischer

130. Readings in the New Testament. Prerequisite: Greek 3. Mr. Haslam

131. Readings in Later Greek. Prerequisite: Greek 100. Topics treated will vary from year to year; they will include: "Longinus", On the Sublime; Marcus Aurelius; Arrian; the Second Sophistic; Plutarch; later epic; epigram; epistolographi Graeci. Mr. Dyck

132. Survey of Byzantine Literature. Prerequisite: Greek 100. Readings will be based on 1) Anthology of Byzantine Prose, ed. Nigel Wilson; 2) Oxford Book of Medieval and Modern Greek Verse, ed. C.A. Trypanis, or, if this is unavailable, Poeti bizantini, ed. R. Cantarella. In addition, necessary historical and cultural background will be provided by readings and lectures. Concurrent scheduling with Greek 231A. Mr. Dyck

133. Readings in Byzantine Literature. Prerequisite: Greek 132. Topics to be treated will vary from year to year; they will include: Procopius, Agathias, Michael Psellus, the Alexiad of Anna Comnena, and Digenis Akritas. Concurrent scheduling with Greek 231B. Mr. Dyck

150. Readings in Modern Greek. Prerequisites: Greek 3 or course 12 or consent of the instructor. Study of Modern Greek literature and its development since the Middle Ages through analysis of texts in the original. The Staff

151. Advanced Readings in Modern Greek. Prerequisites: Greek 150 or consent of the instructor. The Staff

160. Greek Drama: Study and Performance. (2 courses) Prerequisite: consent of the instructor. Intensive critical study of a dramatic work in Greek, culminating in its performance in the original language and manner of presentation. May be repeated for credit whenever a different play is studied and performed. The Staff

199. Special Studies in Greek. (½ to 2 courses) Prerequisite: senior standing and consent of the instructor. The Staff

Latin

Lower Division Courses

1. Elementary Latin. Lecture, five hours per week. The Staff

1G. Elementary Latin for Graduate Students. (No Credit) Offered concurrently with Latin 14, being identical in scheduling and content. Mrs. Killian

2. Elementary Latin. Lecture, five hours per week. Prerequisite: course 1. The Staff

2G. Intermediate Latin (Intensive). (No Credit) Prerequisite: Latin 14 or Latin 2 with grade B or better, or consent of instructor. Review of grammar; reading of selected portions of Latin Prose ranging from Classical to Medieval, with emphasis on historical texts. The Staff

3. Elementary Latin. Lecture, five hours per week. Prerequisite: course 2. The Staff

14. Elementary Latin (Intensive). (2 courses) The intensive course in Latin will cover all the declensions of nouns and adjectives, all conjugations in the indicative mood and the primary uses of the subjunctive mood. Emphasis will be given to the development of the ability to read easy selections of classical prose. Mrs. Killian

NOTE: For key to symbols, see pages 65 and 66

15. Intermediate Latin (Intensive). (2 courses) Prerequisites: Latin 14 or Latin 2 with grade B or better, or consent of instructor. Review of grammar; reading of selected portions of Latin prose ranging from Classical to Medieval, with emphasis on historical texts. Mrs. Killian

40. The Latin Element in English. A knowledge of Latin is not required. A study of the derivation and usage of English words of Latin origin: analysis into their component elements directed toward understanding of form and meaning. Mrs. Killian

Upper Division Courses

Note: Latin 3 is prerequisite to Latin 104, 105A, 107, 111, 113. One of the latter is normally prerequisite to all other 100-series courses in Classical Latin authors.

101. Plautus. Mr. Löfstedt

102. Terence. Mr. Löfstedt

103. Lucretius. Mr. Frischer

104. Ovid. Ms. Bergren, Mrs. Killian

105A. Vergil: Selections from Aeneid I-VI. Ms. King, Mr. Levine

105B. Vergil: Advanced Course. Ms. King

106. Catullus. Mr. Levine, Mr. Haslam

107. Horace: Odes and Epodes. Mr. Levine, Mr. Frischer

108. Roman Elegy. Selections from Catullus, Tibullus, and Propertius. Mr. Frischer, Mr. Levine

109. Roman Satire. Selections from the *Epistles* of Horace, the *Satires* of Juvenal, and the *Epigrams* of Martial. Mrs. Killian, Mr. Levine

110. The Study of Latin Prose. Work in sight reading and grammatical analysis of classical prose texts; writing of classical prose. Mr. Dyck

111. Livy. Mr. Haslam, Mr. Löfstedt

112. Tacitus. Mr. Frischer, Mr. Löfstedt

113. Cicero: The Orations. Mr. Dyck, Mr. Frischer

114. Roman Epistolography: Cicero and Pliny. Mr. Dyck, Mr. Frischer

115. Caesar. Mr. Dyck, Mr. Frischer

116. Petronius. Mr. Löfstedt, Mrs. Mohr

117. Sallust. Mrs. Killian

118. Seneca. A selection of Seneca's works will be read in Latin. Mr. Löfstedt

130. Introduction to Mediaeval Latin. Prerequisite: Latin 3, or Latin 15, or consent of the instructor. Reading of easy prose texts, with interest centered on basic language training. Mr. Löfstedt

131. Mediaeval Latin Prose. Prerequisite: Latin 130 or consent of the instructor. Extensive reading of selected texts in prose; interest is centered on the idiosyncrasies of Mediaeval Latin. Mr. Löfstedt

133. Mediaeval Latin Poetry. Prerequisite: one upper division language course in Latin or consent of the instructor. Mr. Löfstedt

150. Roman Drama: Study and Performance. (2 courses) Prerequisite: consent of the instructor. Intensive critical study of a dramatical work in Latin, culminating in its performance in the original language and manner of presentation. May be repeated for credit whenever a different play is studied and performed. The Staff

199. Special Studies in Latin. (½ to 2 courses) Prerequisite: senior standing and consent of the instructor. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

Related Courses in Other Departments

Ancient Near East (Near Eastern Languages) 170. Introduction to Biblical Studies.

171. Old Testament: Hebrew and Septuagint Texts.

172. Semitic Background of the New Testament.

Art 103A. Greek Art.

103B. Hellenistic Art.

103C. Roman Art.

222A-222B. Greco-Roman Art.

History 111A-111B-111C. History of the Ancient Mediterranean World.

112A-112B. History of Ancient Greece.

113A-113B. History of Rome.

121A. The Early Middle Ages.

121B. The Later Middle Ages.

123A-123B-123C. Byzantine History.

222A-222B. Studies in Medieval Latin. Literary History.

250A-250B. Seminar in Ancient History.

252A-252B-252C. Seminar in Byzantine History.

Indo-European Studies M132. European Archaeology: The Bronze Age.

140. Introduction to Indo-European Mythology.

M150. Introduction to Indo-European Linguistics.

210. Indo-European Linguistics: Advanced Course.

280A-280B. Seminar in Indo-European Linguistics.

Philosophy 101A. Plato – Earlier Dialogues.

101B. Plato – Earlier Dialogues.

102. Aristotle.

Courses on Other Campus

Exchange and resource-sharing programs make it possible for UCLA students to take Classics and Classics-related courses at other schools in the Southern California area, e.g., UCSB, USI, USC. The Classics departments at all these schools should be consulted for specific details.

COMMUNICATION STUDIES (INTERDEPARTMENTAL)

Donald E. Hargis, Ph.D., *Professor of Communication Studies.*
Paul I. Rosenthal, Ph.D., *Associate Professor of Communication Studies (Chairman).*
Patrice French, Ph.D., *Assistant Professor of Communication Studies and Psychology.*

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L. Geoffrey Cowan, LL.B., *Lecturer in Communication Studies.*
Janet Weathers, Ph.D., *Lecturer in Communication Studies.*

UNDERGRADUATE CURRICULUM

The major in Communication Studies seeks to provide the student with a comprehensive knowledge of the nature of human communication, the symbol systems by which it functions, the environments in which it occurs, its media, and its effects. The major draws its resources from the social sciences, humanities, and fine arts. The specialization in Mass Communication centers upon formal and institutional communication systems and the social contexts in which they function. The specialization in Interpersonal Communication centers upon face-to-face communicative interaction in the small group environment. Students selecting the major must complete the required lower division prerequisites and a minimum of 16 upper division courses as set forth below.

Enrollment in the major is limited. Admission to the major will be by application to the Committee in charge. Applications are available at Royce Hall 232.

For purposes of Breadth Requirements, the Communication Studies major is classified within the Social Sciences Division.

Preparation for the Major. Communication Studies 10, Linguistics 1, Psychology 10, Sociology 1. Linguistics 2 is required for students who elect to specialize in Interpersonal Communications.

The Major. Required core courses: Communication Studies 100 and 101 and one course from Anthropology 146, Communication Studies 102 or Linguistics 100.

Specializations. A. Studies in Mass Communication. (1) Theory and Method. Required Courses: Communication Studies 140, Communication Studies 152 and either Communication Studies 147 or Sociology 122, and one course from Political Science 141, Psychology 137B or Sociology 150. (2) Modes of Mass Communication. Two courses chosen from Communication Studies 160, 165, 170. (3) Media and Media History. Two courses chosen from Journalism 192, Theatre Arts 106A, 108, 110A and either Theatre Arts 116 or Communication Studies 175. (4) Electives (Five Courses). Two courses chosen from Communication Studies 120, Communication Studies 130, Psychology 135 or Sociology 154, Psychology 137A or Sociology 152, Sociology 155. Three courses chosen from one of the following three groups: (a) Language Theory Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123. (b) American Studies. English 101B, 101C, 115, History 148A, B, C, History 150A, 150B, 156A, 156B, Political Science 114A, 114B. (c) Social Systematics. Anthropology 141, 144, 145A, 145B, 149A, 149B, Sociology 144A, 144B, and either Sociology 151 or Anthropology 148.

B. Studies in Interpersonal Communication. (1) Theory. Psychology 135 or Sociology 154, Psychology 137A or Sociology 152. (2) Methods. Three courses required: Communication Studies 120, Management 182, Psychology 174. (3) Heterogeneous Groups Communication. Three courses chosen from Anthropology 139, Communication Studies 130, Sociology 124, 155. (4) Electives (Five courses). Two courses chosen from Communication Studies 140, Communication Studies 147 or Sociology 122, Communication Studies 152, 160, 165, 170. Three courses chosen from one of the following three groups: (a) Language Theory. Communication Studies 142, 150, Linguistics 100, 170, Philosophy 172, Psychology 123. (b) Media and Media History. Journalism 192, Theatre Arts 106A, 108, 110A and either Communication Studies 175 or Theatre Arts 116. (c) Social Systematics. Anthropology 141, 144, 145A, 145B, 149A, 149B, Sociology 144A, 144B or either Anthropology 148 or Sociology 151.

Lower Division Course

10. Introduction to Communication Studies. An introduction to the fields of mass communication and interpersonal communication. Study of modes, media, and effects of mass communication, interpersonal processes, and communication theory. The Staff

Upper Division Courses

100. Communication Theory. Prerequisites: course 10, Linguistics 1, Sociology 1, Psychology 10 or consent of instructor. Analysis of the fundamental nature of human communication; its physical, linguistic, psychological and sociological bases. Study of theoretical models explicating the process and constituents of the communicative act. Ms. French

101. Freedom of Communication. Analysis of legal, political and philosophical issues entailed in the rights of free expression, access to an audience, and access to information. Study of court decisions governing freedom of communication in the United States. Mr. Cowan, Mr. Rosenthal

102. The Code of Human Communication. Prerequisites: course 10; Sociology 1; Psychology 10; Linguistics 1. or consent of instructor. The structural analysis and description of human communication codes; the development of language;

characteristics of the source, channels and destination in human communication. Ms. French

115. Dyadic Communication and Interpersonal Relationships. Prerequisite: Course 100. This course will emphasize the developmental approach to the study of communication in dyadic relationships. Differences in the stages of relationships will be analyzed in terms of communication rules and verbal and nonverbal messages. Ms. Weathers

120. Principles and Types of Group Communication. Prerequisite: course 10 or consent of instructor. Analysis of the purposes, principles, and types of small group communication. Particular emphasis upon the organization of and participation in problem-solving discussion. Ms. Weathers

130. Cultural Factors in Interpersonal Communication. Prerequisite: course 100 or consent of instructor. Study of cultural factors as they affect the quality and processes of interpersonal communication; exercises in the participation, analysis, and criticism of inter-ethnic and interracial communications in the small-group configuration. Ms. Weathers

140. Theory of Persuasive Communication. Prerequisite: course 100 or consent of instructor. The dynamics of communication designed to influence human conduct; analysis of the structure of persuasive discourse; integration of theoretical materials drawn from relevant disciplines of the humanities and social sciences. Mr. Rosenthal

142. Rhetorical Theory. Prerequisite: course 100 or consent of instructor. Survey of the major classical and neoclassical treatises on rhetoric. Analysis of the theories of Plato, Aristotle, Cicero, Quintilian, St. Augustine, Blair, Whately, Campbell, and other leading works in the theory of rhetoric. Mr. Hargis

147. Mass Communication and Social Systems. Prerequisite: course 100 or consent of instructor. Comparative analysis of major theories about relationships between mass media and social systems from the interpersonal to the international level; emphasis on empirical research. The Staff

150. Analysis of Communication Content. Prerequisite: course 100 or consent of instructor. Study of methodologies for the qualitative and quantitative analysis of the content of communications. Ms. French

152. Analysis of Communication Effects. Prerequisite: course 100 or consent of instructor. Survey of experimental and field research on the effects of communications. Study of source, message, and environmental factors affecting audience response. The Staff

160. Political Communication. Prerequisite: courses 100 and 101 or consent of instructor. Study of the nature and function of communication in the political sphere; analysis of contemporary and historical communications within established political institutions; state papers; deliberative discourses; electoral campaigns. The Staff

165. Agitational Communication. Prerequisite: courses 100 and 101 or consent of instructor. Theory of agitation; agitation as a force for change in existing institutions and policies in a democratic society. Intensive study of selected agitational movements and the technique and content of their communications. The Staff

170. Legal Communication. Prerequisite: courses 100 and 101 or consent of instructor. Study of the trial and appellate processes as systems of communication. Analysis of the elements of the juridical process as they affect the quality of communication content. Study of the rules of evidence, jury behavior, and the structure of legal discourse. Mr. Rosenthal

175. Criticism and the Public Arts. Prerequisites: course 10 or consent of instructor. An introduction to methods and problems of criticism in the public arts. Several types of critical methods will be studied: formalistic, analogue, pragmatic, and aesthetic criticism. Topics include the definition of art and criticism, the aesthetic media, genre and resources of film, television, theatre and public discourse, the varieties of critical method, the problems of critical judgment. The Staff

197. Undergraduate Honors Proseminar. Prerequisite: senior standing; grade point average of 3.5 in Communication Studies major and 3.3 overall. Variable topic course involving specialized study of selected aspects of the field of human communication. Enrollment is limited. The Staff

199. Special Studies. (½ to 2 courses) Prerequisites: senior standing and consent of the instructor. A course of independent study for senior undergraduates who desire an intensive or specialized investigation of selected research topics. To be arranged with the member of the faculty who will direct the study. The Staff

199H. Special Studies for Honors Candidates. (½ to 2 courses) Prerequisites: admission to Honors Program and senior standing. A course of independent study for honors undergraduates who desire an intensive or specialized investigation of selected research topics. To be arranged with a member of the faculty who will direct the study. The Staff

COMPARATIVE LITERATURE (INTERDEPARTMENTAL)

The department of Comparative Literature does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

COMPUTER SCIENCES

Studies related to computer science are possible in several academic departments. Detailed information is given in the announcements of the individual departments that are listed below. For information on graduate programs in these departments, please consult the Graduate Catalog.

Biomathematics

Course work in mathematical modeling, simulation and other computer techniques in the health sciences, including computer graphics. M.S. and Ph.D. degrees offered.

Engineering

Master of Science and Ph.D. degree programs with specialization in control systems, communication theory, computer applications, computer languages, and computer systems.

Library Service

Master of Library Science degree with specialization in Information Science (Documentation), including consideration of computer applications to information retrieval.

Linguistics

Course work in mathematical linguistics and computational linguistics.

Management

Master of Business Administration and Ph.D. degree programs with specialization in computers and information systems, management science, and production and operations management.

Mathematics

Please see Mathematics-Computer Science major under College of Letters and Sciences.

Psychology

Course work in mathematical psychology, factor analysis and multivariate analysis, and in computer techniques in the behavioral sciences.

Public Health

Master of Science and Ph.D. degree programs in Biostatistics with specializations in data processing and computer assisted statistical analysis.

COUNCIL ON EDUCATIONAL DEVELOPMENT

The Council on Educational Development (CED) was created by the Los Angeles Division of the Academic Senate in May of 1968. The Council's purpose is to promote academic enrichment and encourage educational diversity and innovation. In fulfilling these objectives, the Council works closely with departments, colleges, schools and research centers on the UCLA campus. The Council is uniquely situated to offer special courses and programs, since it possesses modest funding which can be used for faculty released time or the employment of outside lecturers and teaching personnel.

The Council seeks out and, upon approval, supports academic projects, programs and individual courses of scholarly excellence not otherwise available in the University, including courses of timely or topical importance. The Council can offer a course as many as three times, although in principle the Council seeks to encourage departments and schools to adopt appropriate courses into their regular curriculum.

For information about CED courses consult the Schedule of Classes and the Registration and other selected issues of the Daily Bruin. Further information may be obtained from the CED office, 3121 Murphy Hall, telephone: 55467.

DANCE

(Department Office, 205 Women's Gym)

Pia Gilbert, *Professor of Dance.*
Carol Scothorn, M.A., *Professor of Dance.*
Emma Lewis Thomas, Ph.D., *Professor of Dance.*
Alma M. Hawkins, Ed.D, *Emeritus Professor of Dance.*
Elsie Dunin, M.A., *Associate Professor of Dance.*
Marion Scott, *Associate Professor of Dance.*
Doris Siegel, *Associate Professor of Dance.*
Allegra Snyder, M.A., *Associate Professor of Dance (Chairperson of the Department).*
Erma Alperson, Ph.D., *Associate Professor of Dance.*

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Charles Berliner, M.F.A., *Lecturer in Dance.*
Gloria Bowen, *Lecturer in Dance.*
Chris Burnside, M.A., *Lecturer in Dance.*
Lynn Dally, M.A., *Lecturer in Dance.*
Gary Faltico, Ph.D., *Lecturer in Dance.*
Kathe Copperman, M.A., *Lecturer in Dance.*
Alfred Ladzekpo, B.A., *Lecturer in Dance.*
Susan Lovell, M.A., *Lecturer in Dance.*
Margalit Oved Marshall, *Lecturer in Dance.*
Barbara Mattingly, *Lecturer in Dance.*
Emilio Pulido-Huizar, B.A.C., *Lecturer in Dance.*
Mia Slavenska, *Lecturer in Dance.*
Judy Susilo, M.A., *Lecturer in Dance and Ethnic Arts.*
Suenobu Togi, *Lecturer in Dance.*
Martin Tracy, M.A., *Lecturer in Dance.*
Medha von Essen, M.S., *Lecturer in Dance.*
Melinda Williams, M.A., *Lecturer in Dance.*

The dance major offered in the College of Fine Arts leads to the Bachelor of Arts degree. For requirements, see College of Fine Arts.

Students who wish to confer with the department counselor regarding program planning and major requirements should see Wendy Urfrig in the department office, Women's Gym 205.

NOTE: For key to symbols, see pages 65 and 66

Preparation for the Major

Dance 30A-30B, 35, 36A-36B-36C, 37A-37B-37C, 38A-38B, and 70.

The Major

A total of 14 courses including courses 111A-111B, 150A-150B-150C, 151A-151B, 152A-152B, 153A-153B-153C, 154, 158A-158B; two courses (8 units) chosen from upper division dance electives.

Admission to the Major

Readiness for admission to the upper division major is determined by a screening and evaluation conducted during Spring Quarter of the sophomore year.

All entering transfer students are auditioned for placement in technique and choreography classes.

Lower Division Courses

10A-10B-10C. Fundamentals of Creative Dance. (½ course each) Prerequesite: for non-dance majors. Courses must be taken in sequence. Basic modern dance skills with emphasis on body awareness, alignment, movement range, rhythmic coordination and the exploration of the concepts of space, time and energy in dance improvisation and composition. Ms. Williams

11A-11B-11C. Creative Dance. (½ course each) Prerequisite: course 10C or consent of the instructor. For non-dance majors. Continuation of modern dance skills with increased emphasis on principles of structure and form in dance composition. Ms. Williams

30AF-30AW-30AS. Fundamentals of Ballet. (½ course per year) Prerequisite: Major in Dance or consent of instructor. This course is offered on an In Progress basis, which requires students to complete the full three quarter sequence, at the end of which time a grade is given for all quarters of work. Students are admitted in the Fall quarter only. Study of ballet techniques and principles including dance terminology. Ms. Bowen

30BF-30BW-30BS. Fundamentals of Ballet. (½ course per year) Prerequisite: Open major in Dance or consent of instructor. This course is offered on an In Progress basis, which requires students to complete the full three quarter sequence, at the end of which time a grade is given for all quarters of work. Study of ballet techniques and principles including dance terminology. Students are admitted in the Fall quarter only. Ms. Bowen

35. Music Analysis for Dance. (½ course) Study of the elements of music, music structures, and their relationship to dance, with emphasis on rhythmic analysis, dance accompaniment and teacher-accompanist roles. Mrs. Gilbert

36A-36B-36C. Fundamentals of Creative Dance. (½ course each) Open only to dance majors. Study of dance through varied experience emphasizingtthe increasing ability to develop a skilled body-instrument, to respond to movement creatively and to understand structure and form in beginning dance composition. Principles and elements of dance and their relationship to other art forms. Ms. Williams

37A-37B-37C. Creative Dance. (½ course each) Prerequisite: course 36C. A continuing study of dance with emphasis on movement principles and choreography. Ms. Copperman

38A-38B. Dance Notation. (½ course each) Study of labanotation with experience in recording and interpreting dance scores with emphasis on reading skills. Mr. Tracy

46A-46B-46C. Fundamentals of Movement. (½ course each) Prerequisite: consent of instructor. Study of the fundamentals of movement with emphasis on experiencing body awareness, exploring movement potential, and structuring of dance forms. Consideration of cultural influences on expressive forms. Ms. Susilo

47A-47B-47C. Dance Forms. (½ course each) Prerequisite: course 46C. A continuing study of dance forms with consideration of social factors and environmental influences. Includes observation and analysis of movement and the development of basic skills in Labanotation. Mrs. Dunin

50. Introduction to Dance. (½ course) An introduction to the many and varied theoretical aspects of dance as a discipline. Mrs. Snyder

52. Introduction to Dance Theater. (½ course) Prerequisite: course 36A or consent of instructor. Study of the interaction of the aesthetic components of dance theater. Mrs. Siegel

70. Introduction to Performance in Ethnic Dance. (½ course each) Study of basic movement in ethnic dance forms. Mrs. Dunin

71A-71Q. Performance Courses in Ethnic Dance. (½ course each) May not be repeated for credit. (A) Dance of Bali; (B) Dance of Africa; (E) Dance of India; (F) Dance of Israel; (G) Dance of Japan; (H) Dance of Java; (J) Dance of Mexico; (M) Dance of Spain: (P) Dance of Yugoslavia; (Q) Dance of Korea. The Staff

Upper Division Courses

111A-111B. Analysis of Human Movement. Prerequisites: 111A must be completed before enrollment in 111B. A study of the biological and physical principles of movement and the effects of movement upon the structure of and function of the human body. Mr. Tracy

111C. Analysis of Human Movement. Prerequisite: course 111A and 111B. In depth study of selected topics introduced in 111A and 111B. Mr. Tracy

112A-112F. Intermediate Modern Dance Technique. (½ course each) Prerequisite: course 150C or consent of instructor. Synthesis of previous dance experience, advanced technique, and individual and group choreography. Ms. Copperman, Ms. Dally

114A-114F. Advanced Contemporary Dance. (½ course each) Prerequisite: course 153C or consent of the instructor. Advanced technique in contemporary dance with emphasis on performing skills. The Staff

116. Improvisation in Dance. (½ course) Prerequisite: major in Dance of consent of instructor. Practical study of the art of improvisation with emphasis on centering, spontaneity, and the generation of new movement materials and forms as soloist and within the group. Ms. Dally

127. Foundation of Dance Education. Prerequisite: major in Dance of consent of instructor. Analysis and application of principles of movement and choreography in the teaching of modern dance in junior colleges and higher education. Ms. Williams

128. Dance as Culture in Education. Prerequisite: course 70A or consent of instructor. Analysis of theoretical and practical aspects of ethnic dance forms with special reference to teaching in higher education. Mrs. Dunin

131A-131B-131C. Intermediate Ballet. (½ course each) Prerequisite: course 30B or consent of instructor. Open only to dance majors. Courses must be taken in sequence. Study of advanced techniques and principles of classical ballet including phrasing, combinations, and repertory works. Miss Slavenska

132A-132F. Advanced Ballet. (½ course each) Prerequisite: course 131C. Advanced technique in classical ballet with emphasis on performing skills. Miss Slavenska

140A-140B-140C. Dance Cultures of the World. A survey of dance in selected cultures, the role of dance in society; consideration of style, rhythmic structure, historical background and related folklore. Lectures illustrated with demonstrations, film, slides and recordings: (A) Africa (folk and tribal traditions); (B) Asia (art, tribal and folk traditions); (C) North American Indians (tribal and folk traditions). Mrs. Snyder (F,Sp), Ms. Susilo (W)

142. Dance in the Balkans. Prerequisite: course 71P. An introduction to the dance of the Balkans, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Mrs. Dunin

143. Dance in India. Prerequisite: course 71E. An introduction to the dance of India, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Ms. von Essen

144. Dance in Indonesia. Prerequisite: course 71A or 71H. An introduction to the dance of Indonesia, factors influencing its development and social functions, consideration of relationship of dance to other art forms. Ms. Susilo

145. Dance in Japan. Prerequisite: course 71G. An introduction to the dance of Japan, factors influencing its development and social functions, consideration of relationship of dance to other art forms. The Staff

146. Dance in Latin America. Prerequisite: course 71J. An introduction to the dance of Latin America, factors influencing its development and social functions, consideration of the relationship of dance to other art forms. Mr. Pulido-Huizar

150A-150B-150C. Advanced Dance. Prerequisite: course 37C. Choreography with emphasis on the use of composed music, the group composition, and the theatrical environment; synthesis of previous dance experience, theories and technique of outstanding dance artists; principles of human movement related to dance. Mrs. Scothorn

151A. History of Dance in Western Culture, Origins to 1600. Lecture, four hours. Trends in the evolution of dance in Western Civilization are studied from their origins in the Middle East through the European Renaissance period. Mrs. Thomas

151B. History of Dance in Western Culture, Early Baroque to the Present. Lecture, four hours. The evolvement of dance as an art form in historical context, with particular emphasis on the development of style in any given period. The shift from European court entertainment to American theatrical presentation is studied chronologically from the early 1600s on. Mrs. Thomas

152A. Lighting Design for Dance Theater. (½ course) Prerequisite: course 36C or consent of instructor. Study of aesthetics, principles and technical elements of lighting for dance. Mrs. Siegel

152B. Costume and Scenic Design Concepts for Dance Theatre. (½ course) Lecture, two hours; laboratory, two hours. Prerequisite: course 37C or consent of instructor. General study of costume history, selected historical styles and introductory drawing as a conceptual basis for visual awareness in theatrical dance design. Designer-choreographer relationships are explored. Mr. Berliner

152C. Advanced Studies in Dance Theater Lighting. (½ course) Prerequisites: course 152A. Analysis of diverse dance theater lighting problems at an advanced level and individual development of creative solutions. Mrs. Siegel

153A-153B-153C. Choreography and Repertory. (½ course each) Prerequisite: course 150C. Independent work in solo and group choreography. Exploration of various styles and forms. Performance in repertory works. Ms. Scott

154. Music as Dance Accompaniment. Prerequisite: course 35 or consent of the instructor. Piano and percussion improvisation for dance. Choreographer-composer relationships. History of music for the dance with emphasis on contemporary trends. Music for the dance performance. Mrs. Gilbert

155. Form and Structure in Choreography. Prerequisite: major in Dance or consent of instructor. A study of the craft of choreography as taught by selected artists including Louis Horst, Doris Humphrey and Helen Tamaris. Attention will be given to their concepts of form and structure as well as philosophic bases on which these approaches were formed. Ms. Scott

158A-158B. Philosophical Bases and Trends in Dance. (1½ course) Prerequisite: 157A must be completed before enrollment in 158B. Critical analysis of dance as a creative experience and the role of professional and educational dance in our society. Study of selected approaches to current development in dance. Mrs. Gilbert

159. Advanced Dance Notation. Prerequisite: courses 38A-38B. Intermediate and advanced Labanotation. Reconstruction and score preparation in ballet, modern, and ethnic dance. Mr. Tracy

160. Creative Dance for Children. Prerequisite: major in Dance or consent of the instructor. Approaches to teaching dance as an expressive medium for children with emphasis on concepts and principles. (Weekly lab with children.) Ms. Williams

165A-165F. Dynamics and Personality Growth. (½ course each) (Formerly numbered 165A-165B-165C.) Prerequisite: course 150C or consent of instructor. Through the non-verbal process of movement and dance the student will explore the right-brain dimensions of affect, imagery, mental associations and memory and relate the non-verbal experience to personal meaning, insight and behavioral change. The emphasis in the first year will be on self-directed response and intrapsychic exploration while the second year more emphasis will be placed on group process. Mrs. Lovell

171A-171P. Performance Courses in Ethnic Dance. (½ course each) Each course may be repeated, with the consent of the instructor, for a maximum of four units. Prerequisite: corresponding course in 71A-71P series (i.e., 71A is prerequisite to 171A. 71B is prerequisite to 171B, etc.). (A) Dance of Bali; (B) Dance of Ghana; (E) Dance of India; (F) Dance of Israel; (G) Dance of Japan; (H) Dance of Java; (J) Dance of Mexico; (L) Dance of Scotland; (M) Dance of Spain; (P) Dance of Yugoslavia. The Staff

190A-190B-190C. Advanced Dance Performance. (½ course each) Prerequisite: consent of the instructor. The study of performance of major choreography. Mrs. Scothorn, Ms. Scott

191. Repertory Dance Tourl (½ to 1 course) Prerequisites: major in Dance or consent of instructor. Creation and performance of dance concerts in the community with special emphasis on the problems of the touring dance company with a variable repertoire. Ms. Scothorn

197A-197B. Proseminar: Dance Perspectives. (½ course each) Prerequisite: upper division standing or consent of the instructor. Consideration of the aesthetic evolving from the work of the great artists of our time. The Staff

199. Special Studies in Dance. (½, 1, or 2 courses) Prerequisite: senior standing and consent of the instructor. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

Related Courses in Other Departments

Anthropology 144. Aesthetic Anthropology.

Art 10A-10B. Drawing.

25. Sculpture.

30A. Introduction to Design and Technology.

50. Ancient Art.

51. Medieval Art.

52. Renaissance Art.

53. Baroque Art.

54. Modern Art.

55. Africa, Oceania and Native America.

56. Asia, Mid-East.

110A-110B-110C. European Art.

110D. Contemporary Art.

122. History of Style and Ornament.

161J. Video Imagery.

English 80. Major American Authors.

85. The American Novel.

90. Shakespeare.

100A. Introduction to Poetry.

100B. Introduction to Drama.

101C. Recent American Fiction.

112. Children's Literature.

133A-133B-133C. Creative Writing: Poetry.

134A-134B-134C. Creative Writing: Short Story.

135A-135B-135C. Creative Writing: Drama.

Humanities 1A-1B. World Literature.

Music 2A-2B-2C. Introduction to the Literature of Music.

132A-132B. Development of Jazz.

135A-135B-135C. History of the Opera.

140A-140B-140C. Musical Cultures of the World.

Theater Arts 5A-5B-5C. History of the Theater.

20. Acting Fundamentals.

101. Introduction to the Theater Arts.

102A-102B. Selected Topics in the History of the European Theater.

105. Main Currents in Theater.

118A-118B. Creative Dramatics.

122. Make-up for the Stage.

188. The Aesthetics of Visual Communication.

DENTISTRY (ORAL BIOLOGY)

The department of Dentistry (Oral Biology) does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

EARTH AND SPACE SCIENCES

(Department Office: 3806 Geology)

[17]Orson L. Anderson, Ph.D., *Professor of Geophysics.*
[17]Arthur L. Boettcher, Ph.D., *Professor of Geochemistry and Geophysics.*
[17]Friedrich H. Busse, Ph.D., *Professor of Geophysical Fluid Dynamics.*
Donald Carlisle, Ph.D., *Professor of Geology and Mineral Resources.*
John M. Christie, Ph.D., *Professor of Geology.*
[17]Paul J. Coleman, Jr., Ph.D., *Professor of Geophysics and Space Physics.*
Wayne A. Dollase, Ph.D., *Professor of Geology.*
[17]W. Gary Ernst, Ph.D., *Professor of Geology and Geophysics (Chairman of the Department).*
Clarence A. Hall, Jr., Ph.D., *Professor of Geology.*
[17]Isaac R. Kaplan, Ph.D., *Professor of Geology and Geochemistry.*
[17]William M. Kaula, D.Sc., *Professor of Geophysics.*
[17]Margaret G. Kivelson, Ph.D., *Professor of Space Physics (Vice-Chairman of the Department).*
Helen Tappan Loeblich, Ph.D., *Professor of Paleontology and Geology.*
[17]Robert L. McPherron, Ph.D., *Professor of Space Physics and Geophysics.*
Clemens A. Nelson, Ph.D., *Professor of Geology.*
Gerhard Oertel, Dr.rer.nat., *Professor of Geology.*
John L. Rosenfeld, Ph.D., *Professor of Geology.*
[17]J. William Schopf, Ph.D., *Professor of Paleobiology.*
Gerald Schubert, Ph.D., *Professor of Geophysics and Planetary Physics.*
[17]Ronald L. Shreve, Ph.D., *Professor of Geology and Geophysics.*
[17]John T. Wasson, Ph.D., *Professor of Geochemistry and Chemistry.*
Kenneth D. Watson, Ph.D., *Professor of Geology.*
[17]Robert E. Holzer, Ph.D., *Emeritus Professor of Geophysics.*
Willis P. Popenoe, Ph.D., *Emeritus Professor of Geology.*
David D. Jackson, Ph.D., *Associate Professor of Geophysics.*
Walter E. Reed, Ph.D., *Associate Professor of Geology.*
George Peter Bird, Ph.D., *Assistant Professor of Geophysics and Geology.*
Michael J. DeNiro, Ph.D., *Assistant Professor of Geochemistry.*
Donald J. DePaolo, Ph.D., *Assistant Professor of Geochemistry and Geology.*
David J. Stevenson, Ph.D., *Assistant Professor of Planetary Physics.*

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Mario E. Bauer, Ph.D., *Associate Professor of Chemistry.*
Kyle D. Bayes, Ph.D., *Professor of Chemistry.*
Bradford K. Johnson, Ph.D., *Lecturer in Geology.*
Robert E. Jones, B.S., *Lecturer in Geology.*
[17]Leon Knopoff, Ph.D., *Professor of Geophysics and Physics.*
[17]Willard F. Libby, Ph.D., *Emeritus Professor of Chemistry.*
Alfred R. Loeblich, Ph.D., *Adjunct Professor of Paleontology and Geology.*
Ajit K. Mal, Ph.D., *Professor of Engineering and Applied Science.*
Paul M. Merifield, Ph.D., *Lecturer in Engineering and Environmental Geology.*
Malcolm F. Nicol, Ph.D., *Professor of Chemistry.*
Everett C. Olson, Ph.D., *Emeritus Professor of Zoology.*
LouElla R. Saul, M.S., *Senior Museum Scientist.*
Floyd F. Sabins, Jr., Ph.D., *Lecturer in Geology.*
Takeo Susuki, M.S., *Senior Museum Scientist.*
Peter P. Vaughn, Ph.D., *Professor of Zoology.*
Michio Yanai, D.Sc., *Professor of Atmospheric Dynamics.*

Undergraduate Study

The programs described below are designed to provide the student majoring in earth and space sciences with broad training in curricula leading to the Bachelor of Science degree in Geology or Geophysics. Students intending eventually to work toward a doctorate may want to attain reading proficiency in one or more appropriate foreign languages, required by many graduate schools.

Students majoring in the Department should confer with the appropriate Undergraduate Counselor at or before the beginning of each quarter. Sample undergraduate programs for the majors in Geology and in Geophysics are available in the advising office.

Bachelor of Science in Geology

Geology Specialty

Preparation for the Major. Earth and Space Sciences 1, 2, 51A, 51B, 51C; Biology 2; Chemistry 11A, 11B, 11BL, 11C, 11CL; Mathematics 31A-31B, 32A; Physics 8A, 8B and 8C or 6B.

The Major. Earth and Space Sciences 103 or 141, 111A, 111B, 111C or 169, 112, 115 or 120B, 121A, 121B, M136A; *four* additional courses from Earth and Space Sciences 103, 108A, 108B, 114, 119, 122, 128A,B, 129, M130, M131, 132, 133, M136B, 137, M139, 141, 144, 150.

Engineering Geology Specialty

Preparation for the Major. Earth and Space Sciences 1, 51A,B,C; Biology 2; Chemistry 11A, 11B, 11BL, 11C, 11CL; Mathematics 31A, B, 32A, 33A; Physics 8A, B, C.

The Major. Earth and Space Sciences 103 or 141, 111A, 111B, 111C or 169, 112, 121A,B, M136A, M139; Engineering 108, 184A,B, 185A,B; *one* course from Earth and Space Sciences 103, 137, 141, 150; Geography M102; Engineering 184D.

Paleobiology Specialty

Preparation for the Major. Earth and Space Sciences 1, 2, 51A,B,C; Biology 5, 6, 6L; Chemistry 11A, 11B, 11BL, 11C, 11CL, 21, 23; Mathematics 31A,B, 32A or 3A,B, 32A.

The Major. Earth and Space Sciences 111A, 111B, 111C, 112, 115 or 120B, 132, 141; *eight* courses from Chemistry 25; Public Health 163A-163B; Biology 100, 101, 102, 103, 104, 105, 110, 111, 120, 122, 123; Earth and Space Sciences M117, M118, 119, 121A-121B, 133, 144.

Geochemistry Specialty

Preparation for the Major. Earth and Space Sciences 1, 51A,B,C; Biology 2; Chemistry 11A, 11B, 11BL, 11C, 11CL, 21; Mathematics 31A,B, 32A, 33A (Mathematics 32B, 33B recommended); Physics 8A,B,C (Physics 8D recommended).

NOTE: For key to symbols, see pages 65 and 66

The Major. Earth and Space Sciences 111A,B,C or 169, M130, M131; Chemistry 110A,B, 113A, 114 (or Chemistry 23 and 25 or 184 or Earth and Space Sciences 132); *three* courses from Earth and Space Sciences 103, 112, 119, 121A,B, 128A,B; Chemistry 23; *two* Earth and Space Sciences or Chemistry courses on approval of the advisor.

Nonrenewable Natural Resources Specialty

Preparation for the Major. Earth and Space Sciences 1, 2, 51A,B,C; Biology 2; Chemistry 11A, 11B, 11BL, 11C, 11CL; Mathematics 31A,B, 32A; Physics 8A,B,C or 6B.

The Major. Earth and Space Sciences 111A,B,C, 112, 121A,B, 128A or 128B, M136A,B, 137, 169; *three* courses from Earth and Space Sciences 103, 128A or 128B, 129, 138, M139, 140, 141, 150.

Bachelor of Science in Geophysics

Applied Geophysics Specialty

Preparation for the Major. Earth and Space Sciences 1, 51A.B,C; Chemistry 11A; Mathematics 31A,B, 32A,B, 33A,B; Physics 8A,B,C,D; Engineering 10.

The Major. Earth and Space Sciences 111A,B, 112, 122, M136A,B, 169; Physics 105A,B, 110A,B, 114; *three* courses from Earth and Space Sciences 101, 111C, 129, M131, 137, 138, M139, M154, 205, 265; Mathematics 140A,B,C, 152A,B; Physics 112, 115A, 116, 131A,B; or other courses by approval of the advisor.

Geophysics and Space Physics Specialty

Preparation for the Major. Earth and Space Sciences 1, 9; Chemistry 11A, 11B, 11BL, 11C, 11CL; Mathematics 31A,B, 32A,B, 33A,B; Physics 8A,B,C,D.

The Major. Earth and Space Sciences 122, M149, M154; Physics 105A,B, 110A,B, 112; Physics 131A or Mathematics 145A; *three* courses from Earth and Space Sciences 101, 119, M131, M136A,B, 150, 205, 233; Atmospheric Sciences 153; one of Mathematics 140A,B,C. *Three* science electives on approval of the advisor.

Students planning to do graduate work in specialized careers in earth science should aim to take, when possible, appropriate courses in departments outside the major in addition to those already specified. Suggested graduate programs for various fields of emphasis are available in the Student Affairs Office, Room 3683 and will provide guidelines in choosing upper division courses.

Qualified undergraduate students may, upon consent of their advisers and the instructor, take Earth & Space Sciences graduate courses numbered from 200 to 250.

Honors in Geology or Geophysics

The honors program in Geology or Geophysics is intended to provide exceptional students an opportunity for advanced research and study under the tutorial guidance of a member of the faculty. Requirements for admission to candidacy are the same as those required for admission to the Honors Program of the College of Letters and Science. Qualified students wishing to enter the program must submit a completed application form to the Departmental Honors Committee near the end of their junior year. Honors in Geology or Geophysics are awarded upon graduation to those students who have a cumulative GPA of 3.4, who have completed at least 20 graded courses in the University of California, and who have completed a minimum of two quarters (8 units) of course 199H leading to the preparation of a satisfactory honors thesis. Students demonstrating exceptional ability will be awarded Highest Honors.

Lower Division Courses

1. Fundamentals of Earth Science. Elements of earth science; study of earth materials; the nature and interpretation of geologic evidence; study of geologic processes; historical aspects of geology.
The Staff (F,W,Sp)

2. Earth History. Prerequisite: course 1. Methods of historical science; consideration of special problems relating to the physical and biological evolution of the earth from earliest time to the present.
Mr. Nelson (W)

3. Evolution: Solar System, Earth, Life. A nonmathematical course for the general university student. Origin and evolution of the solar system, emphasizing the planets Mercury, Venus, Earth, and Mars. Internal evolution of the earth and its geologic consequences (including oceans and atmosphere). Evolution of life; its interaction with the terrestrial environment.
Mr. Ernst, Mr. Stevenson (F)

5. Earth Science and Society: Geological Ecological Interactions. Geologic aspects of major environmental problems with emphasis on lithosphere-biosphere interactions. Problems of exploration and exploitation of fossil fuel resources. Comparison of society-produced materials and natural cycles.
Mr. Reed

8. Earthquakes. The causes and effects of earthquakes, with special emphasis on the problems of living with earthquakes in Southern California. Topics include the relationship between earthquakes and local and regional geology, types of earthquakes, past and future earthquakes in California, earthquake engineering, disaster preparedness, and prospects for predicting or controlling earthquakes. Mr. Coleman (Sp)

9. Origin and Evolution of the Solar System. Properties of the sun, planets, asteroids and comets. Astronomical observations relevant to understanding the solar system and its origin. Dynamical problems, including examination of fallacious hypotheses. Meteoritic evidence regarding the earliest history of the solar system. Chemical models of the solar nebula. Space exploration and its planning. Mr. Wasson (W)

10. Geology of California. Prerequisite: course 1. General survey of major geologic features and geologic history of California; its relationship to large scale crustal motions of western North America and the eastern Pacific. Environmental geology; study of geologic hazards such as earthquakes, landslides; aspects of urban geology.
Mr. Nelson (Sp)

15. Introduction to Oceanography. Not open for credit to students who have taken Biology 25. Processes responsible for the chemical composition of the ocean, and current circulation patterns. Sea floor spreading and morphology of the ocean floor. Biological productivity, marine ecology, and minerals forming in the ocean.
The Staff (F,W,Sp)

20. Natural History of Southern California. Identification, distribution, diversity of plants, animals, and communities; environmental factors influencing distribution in alpine to lower desert life zones. Identification, interpretation, and physical history of rocks, landforms, and structural geologic features within the physiographic regions of southern California. Emphasis is on field based learning related to integrated aspects of natural history. Mr. Hall (Sp)

51A. Mineralogy-Petrology. Prerequisite: course 1, Chemistry 11C, 11CL or consent of instructor Mineralogic crystal chemistry; relation of physical properties to structure. Structural classification and petrogenesis of the main rock-forming minerals. Laboratory study of crystallography and identification of minerals in igneous, sedimentary and metamorphic rocks. Mr. Dollase (F)

51B. Mineralogy-Petrology. Prerequisites: course 51A and an introductory course in high school or college physics or the consent of the instructor. Principles of optical crystallography. Utilization of optical properties to identify non-opaque minerals in immersion media and in thin section. Sufficient theory is presented to understand the operations performed in the laboratory. Mr. Dollase (W)

51C. Mineralogy-Petrology. Prerequisite: course 51B. Composition, occurrence, and origin of igneous, sedimentary, and metamorphic rocks; megascopic and microscopic study of rocks.
Mr. Watson (Sp)

Upper Division Courses

***1100. Principles of Earth Science.** Designed for non-majors. Fundamentals of physical geology and earth history; major problems of geology, such as continental drift and development of large scale features of the earth; physical and biological evolution. Not open to students who have taken Earth and Space Sciences 1. Mr. Oertel

101. Introduction to Geophysics and Space Physics. Prerequisites: Physics 8A, 8B, 8C, Mathematics 31A, 31B, 32A. A survey of geophysics, the physics of the planets, their atmospheres, and the interplanetary medium, with emphasis on topics of current research interest. The course is designed primarily for students majoring in a physical science or mathematics. Mr. Coleman (F)

103. Intermediate Petrology. Prerequisite: course 51C. Microscopic and megascopic study of selected suites of igneous; sedimentary, and metamorphic rocks; their composition, occurrence, and origin.
Mr. Watson (F)

105. Earth Science and Society: Nonrenewable Resources and Geological Hazards. Prerequisite: course 1 or consent of instructor. An enquiry into the alternatives, opportunities and constraints imposed upon the activities and aspirations of mankind by geological processes and by the characteristics of earth materials. Topics include the nature of non-petroleum mineral resources, mineral and environmental depletions and conservation, the recognition of geological hazards and possible responses. Open to non-majors.
Mr. Carlisle (W)

108A. Geothermics. Prerequisites: Mathematics 33A or consent of instructor. Basic concepts of heat transfer applied to the solutions of geological and geophysical problems. Problems discussed include: continental heat flow. Cooling of oceanic lithosphere. Solidification of magmas. Thermal and subsidence history of sedimentary basins. Frictional heating on fault zones. Mantle geotherms. Temperature in descending slabs. Thermal convection in geothermal regions. Mr. Schubert (W)

108B. Geomechanics. Prerequisites: Mathematics 33A or consent of instructor. Basic concepts of solid and fluid mechanics applied to the solutions of geological and geophysical problems. Problems discussed include: stress and strain due to erosion and sediment deposition. Support of loads (volcanoes, seamounts, etc.) by tectonic plates. Plate bending at oceanic trenches. Viscous flow in the asthenosphere. Glacial rebound of a viscous mantle. Flow of ground water in aquifers. Flow of magma through channels. Thermal convection. Flow in porous media. Diapirism.
Mr. Schubert (Sp)

111AG-111BG-111CG. Field Geology. (½ to 1 course each) Prerequisite: graduate standing or consent of instructor. Geologic mapping, principles of stratigraphy, structural Geology and map interpretation. The Staff

111A. *Elements of Field Geology. Prerequisite: course 1 or consent of instructor; majors must have completed course 51C or be enrolled concurrently in course 51A; course 112 normally is taken concurrently. Techniques of geologic mapping; preparation of geologic reports; methods of mapping faults and folds, sedimentary, igneous, and metamorphic terrains, and Quaternary deposits; introduction to field methods in engineering and environmental geology, petroleum geology, and mining geology and mineral exploration; interpretation of geologic maps; field exercises in pace-and-compass topographic and geologic mapping.
Mr. Shreve (F)

111B. Stratigraphic and Field Geology. Prerequisite: course 111A, or consent of instructor. Prin-

ciples of stratigraphy; geologic mapping of a selected area; preparation of a geologic report.
Mr. DePaolo, Mr. Hall (W)

111C. Field Geology. Prerequisite: course 111B, or consent of instructor. Interpretation of geologic maps and aerial photographs; plane table mapping; geologic mapping of a selected area; preparation of a geologic report.
Mr. Boettcher, Mr. Christie, Mr. Watson (Sp)

112. Structural Geology. Prerequisite: course 111A normally is taken concurrently, or consent of instructor. Planar and linear structures at different scales in sedimentary, metamorphic, and igneous rocks. Faults and folds, their description, classification, and dynamic analysis. Deformation, strength, fracture, and rheological properties of rocks.
Mr. Christie (F)

*[1]**114. Intermediate Structural Geology.** Prerequisite: course 112 or consent of instructor. Large scale tectonics. The major structural features of the continental and oceanic crust of the earth; their geometry, geological and geophysical characteristics and theories as to their mode of origin. Orogenesis, continental drift, sea-floor spreading and plate tectonics. Methods of structural analysis and interpretation of geological structures.
Mr. Oertel

115. Principles of Paleontology. Principles governing the evolution and distribution of fossils; the geologic history of plants, invertebrates and vertebrates. Mrs. Loeblich (F)

M117. Vertebrate Paleontology. (Same as Biology M117.) Prerequisite: Biology 110. Recommended: a course in general geology. Limited enrollment. The fossil record of the evolution of the vertebrates, with emphasis on the morphology of primitive forms in the series from fish to mammal.
Mr. Vaughn (W)

*[1]**M118. Paleobotany.** (Same as Biology M118.) Prerequisite: one course in biological science or consent of instructor. Recommended: course 2 or equivalent. Survey of morphology, paleobiology, and evolution of vascular and non-vascular plants during geologic time, with particular emphasis on major evolutionary events. Mr. Schopf

119. Continential Drift and Sea Floor Spreading. Prerequisite: senior standing in Earth and Space Sciences, Physics, or Mathematics. Evidence for continental drift and sea floor spreading from age-dating of marine sediments and continents and from seismic, magnetic and heat-flow data. Description of sea floor topography and sediments. Processes at mid-ocean rises and edges of plates. Description of events on the continental margins. Biological and biostratigraphic implications. Field work at option of instructors.
Mr. Bird, Mr. Ernst (Sp)

120A. Rubey Colloquium: Major Advances in Earth Science. Prerequisite: upper division standing. Lectures on major advances in earth science. Series of lectures to be offered by distinguished authorities (including regular faculty). Supervision of continuity and assessment of student performance by a faculty member. Series of lectures or short courses to cover topics such as continental drift or plate tectonics, nonrenewable natural resources, geologic hazards, geophysics, geochemistry, i.e., aspects of physical or chemical geology. Students should consult the Department prior to enrolling in order to ascertain course content. Content or subjects will vary from year to year.

120B. Rubey Colloquium: Major Advances in Earth Science. Prerequisite: upper division standing. Lectures on major advances in earth science. Series of lectures to be offered by distinguished authorities (including regular faculty). Supervision of continuity and assessment of student performance by a faculty member. Series of lectures or short courses to cover topics such as major events in the evolution of life, paleoecologic interpretation, paleobiologic aspects of continental drift, origin of life, etc., i.e., aspects of biogeology. Students should consult Department prior to enrolling in order to ascertain course content. Content or subjects to vary. Laboratory work may be required. When required, students also will register for Earth and Space Sciences 199 (Special Studies in Earth and Space Sciences), ½ course.

121A-121B. Advanced Field Geology. (1½ courses each) Prerequisites: courses 111A, 111B, 111C (169), or consent of instructor; to be taken concurrently. Problems in field geology; preparation of geologic maps and cross-sections; preparation of written geologic reports in the field and a final written summary geologic report of selected areas.
The Staff (Sum)

122. Physics of the Earth. Prerequisites: Physics 8A, 8B, 8C, Mathematics 31A, 31B, 32A, or consent of instructor. Application of physics to the structure and evolution of the solid earth. Seismology, convection and heat flow, gravity, geomagnetism, rock magnetism, and the relation of these topics to plate tectonics and other problems of current geophysical interest. Mr. Anderson (Sp)

*[1]**128A. Mineral Deposits.** Prerequisite: course 51C. Origin and occurrence of important mineral deposits with emphasis on chalcophile elements and sulfide ores. (Alternates yearly with course 128B.) Mr. Carlisle

*[1]**128B. Mineral Deposits.** Prerequisite: course 51C. Origin and occurrence of important mineral deposits with emphasis on siderophile and lithophile elements and their minerals. (Alternates yearly with course 128A.) Mr. Carlisle (Sp)

*[1]**129. Coal. (½ course)** Prerequisite: course 51C, 111A-B-C or 169 or consent of instructor. Coal resources and reserves of the major coal-bearing stages. Geological methods of estimating coal reserves, and cost of extraction. Theories of coal formation. New geophysical techniques for estimating reserves. Regional analysis of the issues in transporting energy from the coal deposits to urban centers of usage. Mr. Anderson

*[1]**M130. Isotope Geochemistry.** (Same as Geophysics and Planetary Physics M130.) Prerequisites: junior or senior standing in physical or biological science and consent of instructor. Theoretical aspects of geochronology, particularly Carbon-14 dating. Applications of radioisotopes to the hydrologic cycle and to atmospheric circulation. Stable isotope distribution in nature. Exchange mechanisms and their applications to paleotemperatures, hydrology, mineral formation and origin of biological deposits. (Alternates yearly with Earth and Space Sciences and Geophysics and Planetary Physics M131.) Mr. Kaplan

M131. Geochemistry. (Same as Geophysics and Planetary Physics M131.) Prerequisite: junior or senior standing in chemistry, physics, or Earth and Space Sciences. Origin and abundance of the elements and their isotopes; distribution and chemistry of the elements in the earth, oceans, and atmosphere; chemistry of the earth's interior, phase transformations at high pressure and temperature. (Alternates yearly with Earth and Space Sciences and Geophysics and Planetary Physics M130.)
Mr. DePaolo (Sp)

132. Principles of Biogeochemistry. Prerequisite: Chemistry 21. Organic substances as evidence for origin and biochemical evolution of life; origin and development of petroleum; comparative properties of recent and ancient sediments, and application of molecular stratigraphy to modern and ancient sediments. Mr. DeNiro (W)

133. Regional Geology. Prerequisite: course 111A,B,C or 169 or consent of the instructor. Application of geologic, stratigraphic, paleontologic, biologic, and climatic principles to a specific province or provinces. Emphasis on tectonic evolution of selected regions. Mr. Nelson (W)

M136A. Geophysical Exploration. (Same as Geophysics and Planetary Physics M136A.) Prerequisites: Physics 6A,B,C, or 8A,B,C, Math 31A,B, 32A completed or consent of instructor. Math 32B and 33A recommended. Principles and techniques of gravimetric, seismic, magnetic and other geophysical methods of exploration for ores, petroleum, and other economic minerals.
Mr. Jackson (F)

M136B. Geophysical Exploration. (Same as Geophysics and Planetary Physics M136B.) Prerequisites: Physics 6A,B,C, or 8A,B,C, Math 33A completed or consent of instructor. Principles and techniques of exploration for mineral deposits using natural and artificial electric and magnetic fields. Methods covered include self potential, induced polarization, electrical, tellurics, electromagnetic, magnetotellurics. Mr. McPherron (W)

137. Petroleum Geology. Prerequisite: course 111A,B,C or 169 or consent of instructor. Geology applied to exploration for and production of natural gas and petroleum; techniques of surface and subsurface geology; problems of petroleum geology. Mr. Johnson (Sp)

138. Mining and Exploration Geology. Prerequisite: course 51C. Geological principles applied to the exploration for and evaluation of mineral deposits; geological techniques at operating mines; mine economics; exploration geology and mineral resource economics. Mr. Watson (W)

M139. Engineering and Environmental Geology. (Same as Architecture and Urban Planning M195.) Prerequisite: course 1 or 100; 111A recommended. Principles and practice of soil mechanics and foundation engineering in light of geologic conditions, recognition, prediction and control or abatement of subsidence, landslides, earthquakes, and other geologic aspects of urban planning and subsurface disposal of liquids and solid wastes.
Mr. Merifield (F)

*[1]**140. Nonrenewable Resource Extraction.** Prerequisite: course 128A or 128B or 138 or consent of instructor. The elements of mining and recovery of nonpetroleum mineral resources; associated geological and economic considerations for the resource analyst and geologist. The Staff

141. Sedimentology. Prerequisite: course 111B taken concurrently or consent of instructor. Characteristics of sediment particles, dynamics of sedimentary processes and process-significance of sedimentary features. Interpretation of depositional environments is strongly emphasized.
Mr. Reed (W)

144. Marine Geology. Prerequisite: senior standing. Recent marine sedimentology, and geochemistry; oceanography morphology, structure and geologic history of the ocean basins. Mr. Kaplan (Sp)

M149. Introduction to Fluid Dynamics. (Same as Earth and Space Sciences M149.) Prerequisites: Physics 131A,B or consent of instructor. Equations of fluid motion. Circulation theorems. Irrotational flow. Vortex motion. Surface and internal gravity waves. Rotating frame. Viscous flow. The Staff

150. Remote Sensing for Earth Sciences. Prerequisite: open to upper division and graduate students. Remote sensing related to the development of natural resources. Characteristics of the electromagnetic spectrum and review of remote sensing devices. Applicability to land use classification, soil survey, urban studies, vegetation classification; emphasis on geologic interpretation of imagery. Mr. Sabins (W)

M154. Solar Terrestrial Physics. (Same as Atmospheric Sciences M154.) Prerequisite or concurrent: Physics 110B. Particle and electromagnetic emissions from the sun under quiet and under disturbed conditions. The solar wind. The magnetospheres and the ionospheres of the earth and other planets. Geomagnetic phenomena. Aurora and airglow. Mr. Venkateswaran (F)

169. Field Geophysics. Prerequisite: Geophysics and Planetary Physics and Earth and Space Sciences M136A. Application of seismic, gravimetric, magnetic, and other geophysical methods to geologic and engineering problems. Practical aspects of geophysical exploration including planning, data

NOTE: For key to symbols, see pages 65 and 66

collection, data reduction, and interpretation. Field work on unsolved problems.
Mr. McPherron (Sp)

190. Earth and Space Sciences Colloquium. (½ course) Prerequisites: none. Current topics of research in the Department of Earth and Space Sciences. To be given on a pass/not pass basis. May be repeated more than once for credit.
Mr. Rosenfeld (W)

195G. Field Geology for Graduate Students. (½ course) Field mapping; preparation of a geologic report. Graded P/NP. Mr. Hall (F)

199. Special Studies in Earth and Space Sciences. (½ to 2 courses) Students may be allowed to take course more than once for credit. The Staff

199H. Honors Research in Earth and Space Sciences. Prerequisite: senior standing and permission of the departmental honors committee. Individual research designed to broaden and deepen the student's knowledge of some phase of earth and space sciences. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

ECONOMICS

(Department Office, 2263 Bunche Hall)

Armen A. Alchian, Ph.D., *Professor of Economics.*
William R. Allen, Ph.D., *Professor of Economics.*
Robert W. Clower, *D.Litt. (OXON.) Professor of Economics.*
Michael R. Darby, Ph.D., *Professor of Economics.*
Harold Demsetz, Ph.D., *Professor of Economics.*
George W. Hilton, Ph.D., *Professor of Economics.*
Werner Z. Hirsch, Ph.D., *Professor of Economics.*
Jack Hirshleifer, Ph.D., *Professor of Economics.*
Michael D. Intriligator, Ph.D., *Professor of Economics.*
Benjamin Klein, Ph.D., *Professor of Economics.*
Edward E. Leamer, Ph.D., *Professor of Economics.*
Axel Leijonhufvud, Ph.D., *Professor of Economics.*
John J. McCall, Ph.D., *Professor of Economics.*
Harold M. Somers, Ph.D., LL.B., *Professor of Economics.*
Thomas Sowell, Ph.D., *Professor of Economics.*
Earl A. Thompson, Ph.D., *Professor of Economics.*
Finis R. Welch, Ph.D., *Professor of Economics.*
John F. Barron, Ph.D., *Emeritus Professor of Economics.*
Paul A. Dodd, Ph.D., LL.D., *Emeritus Professor of Economics.*
Earl J. Miller, Ph.D., LL.D., *Emeritus Professor of Economics.*
Dudley F. Pegrum, Ph.D., *Emeritus Professor of Economics.*
Yung-Ping Chen, Ph.D., *Associate Professor of Economics.*
Bryan C. Ellickson, Ph.D., *Associate Professor of Economics.*
Bruce Herrick, Ph.D., *Associate Professor of Economics.*
Cotton M. Lindsay, Ph.D., *Associate Professor of Economics.*
George G.S. Murphy, Ph.D., *Associate Professor of Economics.*
Joseph M. Ostroy, Ph.D., *Associate Professor of Economics.*
John G. Riley, Ph.D., *Associate Professor of Economics.*
Robert F. Cotterman, Ph.D., *Assistant Professor of Economics.*
Daniel Friedman, Ph.D., *Assistant Professor of Economics.*
Robert Jones, Ph.D., *Assistant Professor of Economics.*
Steven Wildmar, Ph.D., *Acting Assistant Professor of Economics.*
Benjamin Yu, Ph.D., *Assistant Professor of Economics*

Objective of the Major in Economics

The undergraduate program in economics is designed for students who wish to gain a thorough understanding of economic analysis. Emphasis is on economic principles applied to the resolution of interpersonal conflicts of interest and the coordination of productive activity in a world of scarce resources. Because students must gain a thorough theoretical and technical competence before extensive study of the applied specializations in the discipline, the analytic core of the major in economics is closely structured. Some courses are appropriate for non-majors, but the curriculum is most suitable for students who wish to make the study of economics their primary focus in their undergraduate education.

The undergraduate major in economics provides analytical training in reference to socioeconomic phenomena and develops the capacity for general problem solving, independent thought, and research. Moreover, the major provides an excellent theoretical background for those pursuing graduate education in law, management, public administration, journalism, social welfare, architecture and urban planning, and education, as well as economics.

Pre-Economics Major

While students are completing the lower division preparation courses for economics, they should be classified as Pre-Economics majors. When students have completed the preparation courses for the major, they must petition to enter the major at the Economics Undergraduate Advisor's Office.

Please Note: Students who have completed at least 84 quarter units as of the beginning of Fall 1980 have the option of (1) completing the economics preparation and major requirements as set forth in the 1979-80 UCLA General Catalogue, or (2) completing the requirements as set forth below. The student must complete one option. The student may not mix the options. Students with less than 84 quarter units as of the beginning of Fall 1980, must complete the new preparation and major requirements.

Requirements for Major in Economics

Preparation for the Major

Required: Economics 1, 2, 40 (or Management 115 as a substitute for Economics 40); two lower or upper division courses in the social sciences other than economics, which may be taken pass/no pass; and two courses in calculus (e.g., Mathematics 3AB, 4AB, or 31AB, which may be taken pass/no pass). The student must complete all pre-major courses with a 2.00 (C) grade in *each* course, and must petition for a change of major status by the time they attain 135 quarter units. (Upon special petition, Economics 100 may be substituted for Economics 1 and 2, if the student is in upper division standing.)

The Major

Ten upper division courses in economics, which must include: Economics 101A, 101B, 102, and at least one course in each of three fields in economics chosen from the list below. It is preferable for the student to complete Economics 101A, 101B, and 102 in separate, consecutive quarters prior to taking economics field courses. Economics 100 may not be included among the ten upper division courses. One or two of the ten courses may be chosen from the following courses in the UCLA Department of Management: 120, 120M, and 130. A 2.0 average is required in upper division economics courses, and also a 2.0 average is required in management courses applied toward the major. (A gradepoint deficiency in economics courses cannot be offset by gradepoints earned in management courses.) Upon consent of the instructor, students may take an upper division course for which they do not have prerequisites.

Fields for the Major

Economic Theory (courses 101A-101B, 102, 103, 106 107); *Economic Development* (courses 110, 111, 112); *Regional Economics* (courses 120, 121); *Public Finance* (courses 130, 131, 132, 133, 135); *Statistics, Mathematical Economics, and Econometrics* (courses 141, 144, 145, 146, 147); *Labor Economics* (courses 150, 151, 152); *Money and Banking* (courses 160, 161); *Government and Industry* (courses 170, 171, 172, 175); *Economic Institutions* (courses 180, 181, 182, 183); *International Economics* (courses 190, 191, 192).

Undergraduate Advising

There is an undergraduate advising office located in 2253 Bunche Hall. The adviser is available for consultation on matters relating to curriculum and major requirements, course evaluations, special programs, and career planning.

Major in Economics-System Science

Please see section on College of Letters & Science, Interdepartmental Majors, Economics-System Science.

Lower Division Courses

1. Principles of Economics. Lecture, three hours; discussion, one hour. Not open to students with credit for Economics 100. An introduction to the principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on allocation of resources and distribution of income through the price system. The Staff

2. Principles of Economics. Lecture, three hours; discussion, one hour. Not open to students with credit for Economics 100. An introduction to the principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on aggregative economics, including national income, monetary and fiscal policy, and international trade.
The Staff

3. Lower Division Research Seminar in Micro Economics. Prerequisite: course 1. Class enrollment limited to ten freshman or sophomore students. Seminar in which students do an intensive research project under guidance of regular faculty. Student selects topic in consultation with instructor; subjects limited to materials covered in Economics 1. Student writes paper and presents to seminar.
The Staff

4. Lower Division Research Seminar in Macro Economics. Prerequisite: course 2. Class enrollment limited to ten freshman or sophomore students. Seminar in which students do an intensive research project under guidance of regular faculty. Student selects topic in consultation with instructor; subjects limited to material covered in Economics 2. Student writes paper and presents to seminar.
The Staff

10. Evolution of Economic Institutions in America. Not open to students with credit for course 183. The historical development of the present American economic system and its performance over time, especially as revealed by the Quantitative data of modern research. Mr. Murphy

40. Introduction to Statistical Methods. (Formerly numbered 140.) Not open to students with credit for Mathematics 50A,50B, 150A-150B-150C, 152A-152B, or Management 115. Elements of statistical analysis. Presentation and interpretation of data; descriptive statistics; theory of probability and basic sampling distributions; statistical inference, including principles of estimation and tests of hypotheses; introduction to regression and correlation. The Staff

Upper Division Courses

Courses 1 and 2 or 100 are prerequisite to all upper division courses in economics.

100. Economic Principles and Problems. Not open to students with credit for 1 or 2. Under special circumstances an economics major in upper division standing may be permitted to substitute 100 for 1 and 2 by petition. A one-quarter course presenting the principles of economics with applications to current economic problems. The Staff

101A. Micro Economic Theory. Prerequisite: one course in calculus or consent of instructor. The laws of demand, supply, returns, and costs; price and output determination in different market situations. Mr. Hirshleifer, Mr. Ostroy, Mr. Riley

101B. Micro Economic Theory. Prerequisite: course 101A. Theory of factor pricing and income distribution; general equilibrium; implications of the pricing process for the optimum allocation of resources; interest and capital.
Mr. Hirshleifer, Mr. Lindsay, Mr. Ostroy

102. Macro Economic Theory. Prerequisite: one course in calculus or consent of instructor. Theory of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy.
Mr. Clower, Mr. Darby, Mr. Jones

Honors Sequence

101AH-BH. Micro Economic Theory.

101AH. Prerequisites: two courses in calculus and completion of Economics 1 and 2 or 100 or consent of instructor. The laws of demand, supply, returns,

and costs; price and output determination in different market situations. Enrollment by consent of instructor. The Staff

101BH. Prerequisites: course 101AH or consent of instructor. Theory of factor pricing and income distribution; general equilibrium implications of the pricing process for the optimum allocation of resources; interest and capital. Enrollment by consent of instructor. The Staff

102H. Macro Economic Theory. Prerequisites: courses 101AH and 101BH or consent of instructor. Theory of income, employment, and the price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy. The Staff

103. Upper Division Research Seminar: Applications of Economic Theory. Prerequisites: courses 101A-101B, 102. Consent of instructor. A limited enrollment seminar in which the student writes a research paper on a topic chosen in consultation with instructor. The Staff

106. Economic History of American Ethnic Groups. Prerequisite: course 101A. A critical analysis of variables affecting the income, occupations, and general economic progress of American ethnic groups. Such ethnic characters ad demographic profile, regional distribution, skill level, and time of arrival will be considered, together with such societal characteristics ad discrimination and public policy. Mr. Sowell

107. History of Economic Theory. A survey of economic analysis from Grecian antiquity to the early 20th century, concentrating on the 18th and 19th centuries; special attention to selected writers, including Aristotle, the Mercantilists, the Physiocrats, Hume, Smith, Malthus, Ricardo, Marx, Marginalists, and Marshall. Mr. Allen, Mr. Sowell

110. Economic Problems of Underdeveloped Countries. A survey of the major issues of development economics. Economic structure of low income countries and primary causes for their limited economic growth. Economic goals and policy alternatives open to their leaders. Possible roles of developed countries. Selected case studies. Mr. Herrick

111. Theories of Economic Growth and Development. Growth models, theory of production under constraints, relative factor prices and their impact on choice of technology, investment criteria, role of the market, economic planning in less developed areas. Mr. Herrick

112. Policies for Economic Development. Prerequisite: course 111 or 102. Suggested strategies for economic development: inflation, balanced growth, industry vs. agriculture, import substitution, export oriented expansion, foreign aid, and others will be considered. Selected case studies. Mr. Herrick

120. Introduction to Urban and Regional Economics. Prerequisite: course 101A or consent of instructor. Economic analysis as applied to significant current regional and urban problems and policy. Mr. Ellickson, Mr. Hirsch

121. Urban Economic Analysis. Prerequisite: courses 120, 101A-101B, or consent of instructor. Demand and supply of urban public services; transportation and location decisions and urban human resources analysis. Mr. Ellickson, Mr. Hirsch

130. Public Finance. Prerequisite: courses 101A and 101B or consent of instructor. Contrast between organization of economic activity by government and by the private sector. Analysis of alternative norms for governmental activity. Methods of assessing benefits of alternative public expenditure projects and burdens of alternative forms of taxations. The use of fiscal policy to achieve economic targets. Techniques of debt management and their interaction with monetary policy. Mr. Chen, Mr. Lindsay

131. Nonproprietary Organization. Prerequisite: courses 101A, 101B, completion of math requirement for the major. Use of economic techniques to study behavior of nonproprietary institutions such as government, cooperatives, unions, nonprofit firms, etc. Attention paid to behavior within these organizations as well as aggregates characterizing actions of the organization itself. Models of political behavior, and effect of decision rules and agenda on political outcomes studied. Mr. Lindsay

132. Financing Social Security and Transfer Expenditures. In the context of the economic behavior of the household and the performance of the economy, this course is designed to study the theories, practices, and economic effects of, and the alternatives to, such programs as OASDHI, unemployment insurance, public assistance and others. Mr. Chen

133. State and Local Finance. Prerequisite: course 130. The division of functions and revenues between state and local governments; the revenues, expenditures, and indebtedness of these governments. Analyses of state and local tax systems. Mr. Hirsch

M135. Economic Models of the Political Process. (Same as Political Science M103.) Prerequisites: Economics 101A and a basic course in Political Science and junior-senior status. This seminar is jointly offered by Economics and Political Science Departments, and permission of the instructor is required. The course examines conceptions and applications of two different processes of political interaction, the cooperative (as in public choice) and the conflictual (as in warfare) making use of economic models of choice and equilibrium.

141. Principles of Statistical Decision. Prerequisite: course 40 or equivalent. Errors of the first and second kind; economic loss functions; prior probabilities and Bayes' Theorem. Analysis of classical and Bayesian approaches. Application to inventory and production problems. The value of information, and implications for sampling design. Mr. Ellickson, Mr. Hirshleifer, Mr. McCall

144. Introduction to Mathematical Methods in Economics. (Formerly numbered 145.) Prerequisite: courses 101A, 101B and two courses in calculus. An introduction to the use of calculus in economic analysis. Topics covered include partial differentiation, optimization, integration and differential and difference equations with applications to the theory of the household and the firm, capital theory and economic dynamics. Mr. Ellickson, Mr. Intriligator, Mr. Riley

145. Topics in Mathematical Economics. Prerequisite: course 144 (formerly numbered 145). Detailed course description should be obtained from the instructor. Possible topics include: theory of economic growth; competitive equilibrium analysis; examination of market failure and the role for market intervention. The Staff

146. Linear Models in Economics. Prerequisite: a course in calculus. An introduction to matrices and matrix algebra, with applications to economics, specifically input-output, Markov chains and linear models of econometrics. Mr. Ellickson, Mr. Intriligator, Mr. Riley

147. Introduction to Econometrics. Prerequisite: two courses in calculus and one course in statistics. An introduction to and survey of econometrics, including model specification; data collection; estimation and hypothesis testing; and the use of econometric models for structural analysis, forecasting, and policy evaluation. An integral part of the course is an original econometric study. Mr. Ellickson, Mr. Intriligator

150. Wage Theory. Prerequisite: courses 101A and 101B or consent of instructor. The supply and demand for labor. Analysis of government, union and other constraints on the competitive system of wage determination. Wage level and structure. Wages and human capital theory. Mr. Cotterman, Mr. Herrick, Mr. Sowell

151. Labor, Wages and Income. Prerequisite: course 150 or consent of instructor. Selected topics in labor theory; income distribution; business cycles and unemployment; investments in human capital and life cycles; migration; human fertility; marriage and divorce, etc. Mr. Cotterman, Mr. Herrick, Mr. Sowell

152. Economics of Trade Unions. Prerequisite: course 150 or consent of the instructor. Economic analysis of strikes, boycotts, lockouts, right to work, seniority, work-rules, pensions, fringe benefits. The evolution of trade unions and the legislative framework within which they operate are also considered. Mr. Herrick, Mr. Hilton

160. Money and Banking. Principles of money and banking in the United States; legal and institutional framework; money supply process; instruments, effects, and practice of monetary policy. Mr. Darby, Mr. Jones

161. Monetary Theory. Prerequisite: course 160. The nature of money and monetary exchange; level and term structure of interest rates; level and growth rate of money; transmission of monetary shocks; theory and practice of monetary policy. Mr. Darby, Mr. Jones

170. Industrial Organization: Structure and Control. Prerequisite: course 101A. Economic and institutional foundations of public regulation of industry; the measurement and control of competition, monopoly and collusion; economic examination of antitrust; determinants of market structure; empirical evidence of structure and performance of industries. Mr. Demsetz, Mr. Klein

171. Industrial Organization: Theory and Tactics. Prerequisite: course 101A. Study of pricing and output decisions of firms under conditions of less than perfect competition or monopoly; theories of oligopoly and monopolistic competition; information costs and advertising; examination of pricing practices such as price discrimination, tie-in selling, predatory pricing and resale price maintenance. Mr. Demsetz, Mr. Klein

172. Economic Analysis of Laws and Legal Institutions. Prerequisite: course 101A. Application of economic theory to legal rule formulation: study of the economic nature and consequences of alternative legal arrangements with special reference to property rights. Application of economic theory to analysis of effects of laws relative to property, contracts, torts, crimes, taxation and constitutional issues. Analysis of the legal process. Mr. Demsetz, Mr. Hirsch

175. Economics of Transportation. The economic characteristics of transport; the functions of the different agencies; pricing and resource allocation in transport; public regulation of transport; urban transport; the modern transport problem. Mr. Hilton

180. Comparative Economic Systems. Prerequisite: course 101A. An analysis of capitalist and planned economies as exemplified by the United States, Soviet Union, Great Britain, etc. Alternative systems are compared with respect to the economic goals, theories of economic organization, institutions, and developmental processes. Problems of economic planning are emphasized. Mr. Murphy

181. Development of Economic Institutions in Western Europe. Prerequisite: upper division status. European economic history, 900-1914. Custom, command, and market modes of organization. Evolution of property rights, contract forms, and monetary arrangements. Decline of feudal institutions, especially serfdom. The open field village and enclosures. Crafts manufacturing and guild organization. Factories, industrial firms, and unions. Development of banking and central banking. The public finances and the role of government. Mr. Leijonhufvud

182. Economic Problems of the U.S.S.R. An introduction to the organization and policies of the economy of the U.S.S.R. Mr. Murphy

183. Development of Economic Institutions in the United States. Not open to students with credit for course 10. A study of the changing economic conditions in the U.S. from colonial times to the early

NOTE: For key to symbols, see pages 65 and 66

20th century and the effects of these changes on American society. Mr. Murphy

190. International Economics. Not open to students with credit for courses 191 or 192. A general introduction to international economics, based upon an examination of the theory of trade and the means and significance of balance of payments adjustments, with analysis of major issues of international commercial and monetary policy confronting national and international agencies.
Mr. Allen, Mr. Leamer

191. International Trade Theory. Prerequisite: course 101B. Not open to students with credit for course 190. The theory of international trade: the bases, direction, terms, volume, and gains of trade. The effects of tariffs, quantitative restrictions, and international integration. The effects of free and restricted trade on economic welfare and political stability. Mr. Leamer

192. International Finance. Prerequisite: course 102. Not open to students with credit for course 190. Emphasis on the interpretation of the balance of payments and the adjustment to national and international equilibria, through changes in price levels, exchange rates, and national income. Other topics include: making international payments, determination of exchange rates under various monetary standards, capital movements, exchange controls, and international monetary organization.
Mr. Allen

199. Special Studies in Economics. (½ to 1 course) Prerequisite: senior standing and consent of the instructor. A student may count this course only once in satisfying his major in economics; he may take it a second time to meet University graduation requirements.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

BUSINESS-ECONOMICS EDUCATION

Lawrence W. Erickson, Ed.D., *Professor of Education (Adviser for Major, 244 Moore Hall).*

Students wishing to prepare for teaching in the field of business-economics education should plan to complete the business-economics major shown below:

Business-Economics Major for Business Teachers

This major has been designed in accordance with the State law governing the Single Subject (Secondary) Teaching Credential with a Specialization in Secondary Teaching for business teachers. The program consists of a departmental major in economics and management.

Preparation for Major. Economics 1, 2, Management 1A, 1B; two courses in Calculus (e.g., Mathematics 4A, 4B, 3A, 3B or 31A, 31B, which may be taken pass/fail), Economics 40 or Management 115A, Speech 1.

Upper Division Requirements. (1) Economics 101A, 101B, 102, 160; three courses from Economics 107, 110, 130, 150, 170, 180, 190; (2) Management 108, 109, 113A, Management 120, 130; three courses from Management 113B, 122, 133, 135, 160, 180 or 281B, 190.

Upper Division Course

199. Special Studies. (¼ to 1 course) Prerequisites: senior standing and consent of the instructor.
The Staff

Requirements for Teaching Credentials

Students may earn credentials for teaching business, economics, and other subjects in California elementary and secondary schools. Consult with the Graduate School of Education (201 Moore Hall) for information.

EDUCATION

(Department Office, 244 Moore Hall)

The department of Education does not offer an undergraduate degree. For detailed information on degree offerings in this department, please refer to the Graduate Catalog.

ENGINEERING AND APPLIED SCIENCE

(Office of the Dean, 7400 Boelter Hall)

Russell R. O'Neill, Ph.D., *Dean.*
Russell A. Westmann, Ph.D., *Associate Dean.*
Alfred C. Ingersoll, Ph.D., *Associate Dean.*
Alan J. Ardell, Ph.D., *Assistant Dean.*
Richard Stern, Ph.D., *Assistant Dean.*
Alan N. Willson, Jr., Ph.D., *Assistant Dean.*

CHEMICAL, NUCLEAR, AND THERMAL ENGINEERING DEPARTMENT

(Department Office, 5531 Boelter Hall)

Douglas N. Bennion, Ph.D., *Professor of Engineering and Applied Science.*
Harry Buchberg, M.S., *Professor of Engineering and Applied Science.*
Ivan Catton, Ph.D., *Professor of Engineering and Applied Science.*
Robert W. Conn, Ph.D., *Professor of Engineering and Applied Science.*
Donald K. Edwards, Ph.D., *Professor of Engineering and Applied Science.*
Traugott H.K. Frederking, Ph.D., *Professor of Engineering and Applied Science.*
Sheldon K. Friedlander, Ph.D., *Professor of Engineering and Applied Science.*
William E. Kastenberg, Ph.D., *Professor of Engineering and Applied Science.*
Eldon L. Knuth, Ph.D., *Professor of Engineering and Applied Science.*
Joseph W. McCutchan, M.S., *Professor of Engineering and Applied Science.*
Anthony F. Mills, Ph.D., *Professor of Engineering and Applied Science.*
Ken Nobe, Ph.D., *Professor of Engineering and Applied Science (Chairman of the Department).*
David Okrent, Ph.D., *Professor of Engineering and Applied Science.*
Richard L. Perrine, Ph.D., *Professor of Engineering and Applied Science.*
Gerald C. Pomraning, Ph.D., *Professor of Engineering and Applied Science.*
Lawrence B. Robinson, Ph.D., *Professor of Engineering and Applied Science.*
William D. Van Vorst, Ph.D., *Professor of Engineering and Applied Science.*
Ahmed R. Wazzan, Ph.D., *Professor of Engineering and Applied Science.*
George E. Apostolakis, Ph.D., *Associate Professor of Engineering and Applied Science.*
Vijay K. Dhir, Ph.D., *Associate Professor of Engineering and Applied Science.*
Nasr M. Ghoniem, Ph.D., *Assistant Professor of Engineering and Applied Science.*
Owen I. Smith, Ph.D., *Assistant Professor of Engineering and Applied Science.*
Vincent L. Vilker, Ph.D., *Assistant Professor of Engineering and Applied Science.*

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Manuel M. Baizer, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Leslie Cave, B.Sc., *Adjunct Professor of Engineering and Applied Science.*
Carl Gazley, Jr., Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Julius Glater, M.S., *Adjunct Associate Professor of Engineering and Applied Science.*
Irving M. Pearson, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Milton S. Plesset, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
A.M.O. Smith, D.Sc., *Adjunct Professor of Engineering and Applied Science.*
Kenneth A. Solomon, Ph.D., *Adjunct Assistant Professor of Engineering and Applied Science.*
Chauncey Starr, Ph.D., *Adjunct Professor of Engineering and Applied Science.*

COMPUTER SCIENCE

(Department Office, 3732 Boelter Hall)

Algirdas A. Avizienis, Ph.D., *Professor of Engineering and Applied Science.*
Bertram Bussell, Ph.D., *Professor of Engineering and Applied Science.*
David G. Cantor, Ph.D., *Professor of Mathematics and Engineering and Applied Science.*
[18]Jack W. Carlyle, Ph.D., *Professor of Engineering and Applied Science.*
Wesley W. Chu, Ph.D., *Professor of Engineering and Applied Science.*
Kenneth M. Colby, M.D., *Professor of Psychiatry and Engineering and Applied Science.*
[18]Joseph J. DiStefano, III, Ph.D., *Professor of Engineering and Applied Science and Medicine.*
Gerald Estrin, Ph.D., *Professor of Engineering and Applied Science (Chairman of the Department).*
Joseph A. Goguen, Jr., Ph.D., *Professor of Engineering and Applied Science.*
[18]Sheila A. Greibach, Ph.D., *Professor of Engineering and Applied Science.*
Walter J. Karplus, Ph.D., *Professor of Engineering and Applied Science.*
Leonard Kleinrock, Ph.D., *Professor of Engineering and Applied Science.*
Allen Klinger, Ph.D., *Professor of Engineering and Applied Science.*
David F. Martin, Ph.D., *Professor of Engineering and Applied Science.*
Lawrence P. McNamee, Ph.D., *Professor of Engineering and Applied Science.*
Michel A. Melkanoff, Ph.D., *Professor of Engineering and Applied Science.*
Richard R. Muntz, Ph.D., *Professor of Engineering and Applied Science.*
[16]Jacques J. Vidal, Ph.D., *Professor of Engineering and Applied Science.*
[18]Chand R. Viswanathan, Ph.D., *Professor of Engineering and Applied Science.*
Thomas A. Rogers, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
Antonin Svoboda, D. Tech. Sci., *Emeritus Professor of Engineering and Applied Science.*
Daniel M. Berry, Ph.D., *Associate Professor of Engineering and Applied Science.*
Alfonso F. Cardenas, Ph.D., *Associate Professor of Engineering and Applied Science.*
Milos D. Ercegovac, Ph.D., *Associate Professor of Engineering and Applied Science.*
Mario Gerla, Ph.D., *Associate Professor of Engineering and Applied Science.*
Gerald J. Popek, Ph.D., *Associate Professor of Engineering and Applied Science.*
Emily P. Friedman, Ph.D., *Assistant Professor of Engineering and Applied Science.*
Robert C. Uzgalis, *Assistant Professor of Engineering and Applied Science.*

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Thelma Estrin, Ph.D., *Adjunct Professor of Engineering and Applied Science and Anatomy.*
[16]John Hanley, M.D., *Professor of Psychiatry in Residence and Engineering and Applied Science.*
William B. Kehl, A.M., *Lecturer in Engineering and Applied Science.*
Don Lebell, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Leon Levine, M.S., *Senior Lecturer in Engineering and Applied Science.*
D. Stott Parker, Jr., Ph.D., *Assistant Professor of Engineering and Applied Science in Residence.*
David A. Rennels, Ph.D., *Acting Assistant Professor of Engineering and Applied Science.*
Michael Rhodes, Ph.D., *Visiting Assistant Professor of Engineering and Applied Science.*
[18]Vance C. Tyree, M.S., *Adjunct Assistant Professor of Engineering and Applied Science.*

ELECTRICAL SCIENCES AND ENGINEERING

(Department Office, 7732 Boelter Hall)

Frederick G. Allen, Ph.D., *Professor of Engineering and Applied Science.*
Francis F. Chen, Ph.D., *Professor of Engineering and Applied Science.*
Robert S. Elliott, Ph.D., *Professor of Engineering and Applied Science.*
A. Theodore Forrester, Ph.D., *Professor of Engineering and Applied Science and Physics.*
H. J. Orchard, M.Sc., *Professor of Engineering and Applied Science. F. W. Schott, Ph.D., Professor of Engineering and Applied Science.*

Gabor C. Temes, Ph.D., *Professor of Engineering and Applied Science.*
Chand R. Viswanathan, Ph.D., *Professor of Engineering and Applied Science (Chairman of the Department).*
Alan N. Willson, Jr., Ph.D., *Professor of Engineering and Applied Science.*
Cavour W. Yeh, Ph.D., *Professor of Engineering and Applied Science.*
Louis L. Grandi, M.S., *Emeritus Professor of Engineering and Applied Science.*
W. D. Hershberger, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
Ellis F. King, M.S., *Emeritus Professor of Engineering and Applied Science.*
Nicolaos G. Alexopoulos, Ph.D., *Associate Professor of Engineering and Applied Science.*
Lee W. Casperson, Ph.D., *Associate Professor of Engineering and Applied Science.*
Siegfried G. Knorr, Ph.D., *Associate Professor of Engineering and Applied Science.*
Neville C. Luhmann, Jr., Ph.D., *Associate Professor of Engineering and Applied Science.*
Oscar M. Stafsudd, Jr., Ph.D., *Associate Professor of Engineering and Applied Science.*
Kang-Lung Wang, Ph.D., *Associate Professor of Engineering and Applied Science.*
Jack Willis, B.Sc., *Associate Professor of Engineering and Applied Science.*
Kenneth W. Martin, Ph.D., *Assistant Professor of Engineering and Applied Science.*
Dee-Son Pan, Ph.D., *Assistant Professor of Engineering and Applied Science.*

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Aldo G. DiLoreto, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Clifford E. Gilbert, B.Sc., *Lecturer in Engineering and Applied Science.*
Dean T. Hodges, Ph.D., *Adjunct Associate Professor of Engineering and Applied Science.*
Douglas A. Pinnow, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
George Szentirmai, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
[18]Vance C. Tyree, M.S., *Adjunct Assistant Professor of Engineering and Applied Science.*

ENGINEERING SYSTEMS

(Department Office, 7619 Boelter Hall)

Joseph J. DiStefano, III, Ph.D., *Professor of Engineering and Applied Science and Medicine.*
John A. Dracup, Ph.D., *Professor of Engineering and Applied Science.*
Cornelius T. Leondes, Ph.D., *Professor of Engineering and Applied Science.*
John H. Lyman, Ph.D., *Professor of Engineering and Applied Science and Psychology (Chairman of the Department).*
[18]Joseph W. McCutchan, M.S., *Professor of Engineering and Applied Science.*
Herbert B. Nottage, Ph.D., *Professor of Engineering and Applied Science.*
Philip F. O'Brien, M.S., *Professor of Engineering and Applied Science.*
Russell R. O'Neill, Ph.D., *Professor of Engineering and Applied Science.*
Judea Pearl, Ph.D., *Professor of Engineering and Applied Science.*
[18]Richard L. Perrine, Ph.D., *Professor of Engineering and Applied Science.*
Allen B. Rosenstein, Ph.D., *Professor of Engineering and Applied Science.*
Moshe F. Rubinstein, Ph.D., *Professor of Engineering and Applied Science.*
Allen R. Stubberud, Ph.D., *Professor of Engineering and Applied Science, Resident at Irvine.*
William W.G. Yeh, Ph.D., *Professor of Engineering and Applied Science.*
Morris Asimow, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
Ralph M. Barnes, Ph.D., *Emeritus Professor of Engineering and Applied Science and Production Management.*
Edward P. Coleman, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
J. Morley English, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
Warren A. Hall, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
W. Julian King, M.E., *Emeritus Professor of Engineering and Applied Science.*
Russell L. Perry, M.E., *Emeritus Professor of Engineering and Applied Science, Resident at Riverside.*
Arthur F. Pillsbury, Engineer, *Emeritus Professor of Engineering and Applied Science.*
Bonham Campbell, E.E., *Associate Professor of Engineering and Applied Science.*
L. Arthur Campfield, Ph.D., *Assistant Professor of Engineering and Applied Science.*
Michael K. Stenstrom, Ph.D., *Assistant Professor of Engineering and Applied Science.*

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Norman C. Dalkey, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Gary L. Gasca, B.A., *Lecturer in Engineering and Applied Science.*
Alfred C. Ingersoll, Ph.D., *Professor of Engineering and Applied Science in Residence.*
Melvin W. Lifson, Ph.D., *Lecturer in Engineering and Applied Science.*
Kenneth R. Pfeiffer, Ph.D., *Lecturer in Engineering and Applied Science and Psychology.*
Robert V. Phillips, B.S., *Adjunct Professor of Engineering and Applied Science.*
Arnold M. Ruskin, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Ran Vas, D.Sc., *Adjunct Associate Professor of Engineering and Applied Science.*

MATERIALS

(Department Office, 6531 Boelter Hall)

Alan J. Ardell, Ph.D., *Professor of Engineering and Applied Science.*
Rointan F. Bunshah, D.Sc., *Professor of Engineering and Applied Science.*
David L. Douglass, Ph.D., *Professor of Engineering and Applied Science.*
William J. Knapp, Sc.D., *Professor of Engineering and Applied Science.*
John D. Mackenzie, Ph.D., *Professor of Engineering and Applied Science (Chairman of the Department).*
Kanji Ono, Ph.D., *Professor of Engineering and Applied Science.*
Aly H. Shabaik, Ph.D., *Professor of Engineering and Applied Science.*
George H. Sines, Ph.D., *Professor of Engineering and Applied Science.*
Christian N. J. Wagner, Dr. rer. nat., *Professor of Engineering and Applied Science.*
Alfred S. Yue, Ph.D., *Professor of Engineering and Applied Science.*
Daniel Rosenthal, Ph.D., *Emeritus Professor of Engineering and Applied Science.*
William Klement, Jr., Ph.D., *Associate Professor of Engineering and Applied Science.*

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Samuel B. Batdorf, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Ryoichi Kikuchi, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Martin H. Leipold, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Morris A. Steinberg, D.Sc., *Adjunct Professor of Engineering and Applied Science.*
James R. Varner, Ph.D., *Adjunct Associate Professor of Engineering and Applied Science.*

MECHANICS AND STRUCTURES

(Department Office 6731 Boelter Hall)

Andrew F. Charwat, Ph.D., *Professor of Engineering and Applied Science.*
Julian D. Cole, Ph.D., *Professor of Engineering and Applied Science and Mathematics.*
Stanley B. Dong, Ph.D., *Professor of Engineering and Applied Science.*
C. Martin Duke, M.S., *Professor of Engineering and Applied Science.*
Kurt Forster, Ph.D., *Professor of Engineering and Applied Science.*
Michael E. Fourney, Ph.D., *Professor of Engineering and Applied Science (Chairman of the Department).*
Gary C. Hart, Ph.D., *Professor of Engineering and Applied Science.*
Robert E. Kelly, Sc.D., *Professor of Engineering and Applied Science.*
Chung-Yen Liu, Ph.D., *Professor of Engineering and Applied Science.*
Ajit K. Mal, Ph.D., *Professor of Engineering and Applied Science.*
William C. Meecham, Ph.D., *Professor of Engineering and Applied Science.*
D. Lewis Mingori, Ph.D., *Professor of Engineering and Applied Science.*
Antony J. A. Morgan, Ph.D., *Professor of Engineering and Applied Science.*
Rokuro Muki, Ph.D., *Professor of Engineering and Applied Science.*
Richard B. Nelson, Sc.D., *Professor of Engineering and Applied Science.*
Lucien A. Schmit, Jr., M.S., *Professor of Engineering and Applied Science.*
[18]George H. Sines, Ph.D., *Professor of Engineering and Applied Science.*
Richard Stern, Ph.D., *Professor of Engineering and Applied Science.*
Russell A. Westmann, Ph.D., *Professor of Engineering and Applied Science.*
Joseph S. Beggs, D.Ing., *Emeritus Professor of Engineering and Applied Science.*
Walter C. Hurty, M.S., *Emeritus Professor of Engineering and Applied Science.*
Tung Hua Lin, D.Sc., *Emeritus Professor of Engineering and Applied Science.*
Edward H. Taylor, M.S., *Emeritus Professor of Engineering and Applied Science.*
William T. Thomson, Ph.D., *Emeritus Professor of Engineering and Applied Science, Resident at Santa Barbara.*
Steven J. Barker, Ph.D., *Associate Professor of Engineering and Applied Science.*
Steven Dubowsky, Sc.D., *Associate Professor of Engineering and Applied Science.*
Lewis P. Felton, Ph.D., *Associate Professor of Engineering and Applied Science.*
Peretz Friedmann, Sc.D., *Associate Professor of Engineering and Applied Science.*
Poul V. Lade, Ph.D., *Associate Professor of Engineering and Applied Science.*
Dixon Rea, Ph.D., *Associate Professor of Engineering and Applied Science.*
Sanford B. Roberts, Ph.D., *Associate Professor of Engineering and Applied Science.*
Lawrence G. Selna, Ph.D., *Associate Professor of Engineering and Applied Science.*
Ross R. Allen, Ph.D., *Assistant Professor of Engineering and Applied Science.*
James S. Gibson, Ph.D., *Assistant Professor of Engineering and Applied Science.*
David Y. Tan, Ph.D., *Assistant Professor of Engineering and Applied Science.*

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Richard S. Chadwick, Ph.D., *Adjunct Associate Professor of Engineering and Applied Science.*
Robert E. Englekirk, Ph.D., *Adjunct Associate Professor of Engineering and Applied Science.*
George J. Tauxe, M.S., *Emeritus Senior Lecturer in Engineering and Applied Science.*
Edward R. Wood, D.Engr., *Adjunct Professor of Engineering and Applied Science.*
Harold T. Yura, Ph.D., *Adjunct Professor of Engineering and Applied Science.*
Moche Ziv, Ph.D., *Adjunct Associate Professor of Engineering and Applied Science.*

SYSTEM SCIENCE

(Department Office, 4532 Boelter Hall)

Masanao Aoki, Ph.D., *Professor of Engineering and Applied Science.*
A. V. Balakrishnan, Ph.D., *Professor of Engineering and Applied Science and Mathematics (Chairman of the Department).*
Jack W. Carlyle, Ph.D., *Professor of Engineering and Applied Science.*
Hector O. Fattorini, Ph.D., *Professor of Mathematics and Engineering and Applied Science.*
Sheila A. Greibach, Ph.D., *Professor of Engineering and Applied Science.*
Nhan Levan, Ph.D., *Professor of Engineering and Applied Science.*
James L. Massey, Ph.D., *Professor of Engineering and Applied Science.*
Bruce L. Miller, Ph.D., *Professor of Engineering and Applied Science.*
Jimmy K. Omura, Ph.D., *Professor of Engineering and Applied Science.*
Paul K. C. Wang, Ph.D., *Professor of Engineering and Applied Science.*
Donald M. Wiberg, Ph.D., *Professor of Engineering and Applied Science and Anesthesiology.*
Kung Yao, Ph.D., *Professor of Engineering and Applied Science.*
Stephen E. Jacobsen, Ph.D., *Associate Professor of Engineering and Applied Science.*
Richard E. Mortensen, Ph.D., *Associate Professor of Engineering and Applied Science.*
Izhak Rubin, Ph.D., *Associate Professor of Engineering and Applied Science.*
[18]Emily P. Friedman, Ph.D., *Assistant Professor of Engineering and Applied Science.*
Eduardo J. Subelman, Ph.D., *Assistant Professor of Engineering and Applied Science.*

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Jan M. Chaiken, Ph.D., *Adjunct Associate Professor of Engineering and Applied Science.*

NOTE: For key to symbols, see pages 65 and 66

Undergraduate Required Courses

Lower Division: 10

Upper Division: The student is to select 8 core courses (32 units) from the 5 subject areas as listed below. The minimum and maximum number of units allowed in each of the 5 subject areas is also given.

Subject Areas (5)

Courses (12)

(1) *Computer Processes*
Courses: M124A
Units: 0-4

(2) *Electrical Sciences*
Courses: 100, 100B
Units: 4-8

(3) *Mechanics*
Courses: 102, 103A, 108
Units: 8-12

(4) *Systems*
Courses: 106B, 121C, 127B
Units: 4-8

(5) *Thermal and Materials Science*
Courses: 14†, 105A, 105D
Units: 8-12

†Not open for credit for students who have taken Engineering 107B.

Students following pre 1976/77 catalogs are referred to the respective catalogs for further information.

School Courses

5, 11, 12, 104, 104CD, 192A, 192B, 192C, 193A, 196A, M291A M291B, 291C, 470A-470D,* 471A-471C,* 472A-472D,* 473A-473B,* 596, 597A, 597B, 597C, 598, 599.

*Open only to Engineering Executive Program students.

Departmental Course Offerings

Chemical, Nuclear, and Thermal Engineering Courses

130A, 131A, 132A, 133A, 134A, 134B, 134C, 135A, 135AL, 135B, 135BL, 135C, 135D, 135E, 135F, 136A, 136B, 136C, 137, 137A, 137B, 137C, 137D, 137E, 138A, 139A, 139B, 199C, 230A, 230B, 230C, 230D, 231A, 231B, 231C, 231D, 231E, 231F, 232B, 233A, 234A, 235A, 235B, 235C, 235D, 236A, 236B, 236C, 236D, 236E, M236G, 236H, 237A, 237B, 237C, 237D, 237E, 238, 238A, 238B, 238C, 238D, 238E, 239AA-AZ, 239BA-BZ, 239CA-CZ, 239DA-DZ, 239EA-EZ, 239S.

Computer Science Courses

20, 30, 99, 111, M123B, M124A, 131, 132, 141, 151A, 151B, 152A, 152B, 171, 172, 173, 174, 199, 201, 202, 211A, 212A, 212B, 212C, 219, 221, 231A, 231B, 232A, 232B, 234B, 234C, 239, 241A, 241B, 242A, 243A, 243B, 249, 251A, 252A, 253A, 253B, 254A, 255A, 255B, 257A, 259, 271A, 271B, 273A, 274A, 275A, 276A, 276B, 276C, 279, M284A, M285A, 286A, M287A, 288A, 289, 479D, 479E, 596, 597A, 597B, 597C, 598, 599.

Electrical Sciences and Engineering Courses

110A, 110B, 110C, 111A, 111B, 113A, 113B, 115A, 115B, 115C, 115D, 115E, 115F, 116A, 116B, 116C, 116D, 116L, 116M, 116N, 117A, 117B, 117C, 117D, 117E, 117L, M118, 195A, 199B, 210A, 210B, 210C, 210D, 210E, 210F, 213A, 213B, 213C, 213D, 213S, 214A, 214B, 214C, M214E, 215A, 215B, 215C, 215D, 215E, 216A, 216B, 216C, 217A-217B, 217C, 217E, 219A, 219B, 219C, 219D, 219E, 219X.

Engineering Systems Courses

106A, 106C, 106D, M107A, 109, 171A, 171C, 173, 174A, 176A, 177A, 177B, 180A, 180B, 181A, 184A, 184B, 184D, 184E, 193B, M196B, 199D, 270A, 271A, 271B, 271C, 271D, 272D, 274A, 274B, 274C, 274J, 274K, 274Z, 276A, 277A, 277B, 280A, 280B, 284A, 284B, 284C, 284D, 284E, 284F, 284G, 284H, M288A, M288B, M288C, M296A, M296B, M296C.

Materials Courses

15, 140D, 140E, 140L, 141, 142A, 142L, 143A, 143L, 144A, 144L,145A, 145L, 146A, 146B, 146D, 146L, 147A, 147B, 147E, 147L, 147M, 148, 149C, 149E, 199E, 240A, 240B, 240C, 241, 242A, 243A, 243B, 243C, 244, 245C, 246A, 246B, 246D, 247A, 247B, 247C, 248A.

Mechanics and Structures Courses

150A, 150B, 151, 152, 153A, 153B, 153C, 154A, 154B, 155, 156A, 157, 157A, 157B, 158A, 160, 161A, 162A, 162B, 162C, 163, 164, 165A, 165B, 165C, 165L, 166, 167A, 167B, 167C, 167L, 169A, 169L, 185A, 185B, 186A, 191A, 199F, 250A, 250B, 250C, 251A, 251B, 251C, 252A, 252B, 252D, 253A, 253B, 253C, 254A, 254B, 255A, 255B, 256A, 256B, 256C, 256F, M257A, M257B, 258A, 258B, 259A, 259B, 262A, 263A, 263B, 264A, 264B, 265A, 265B, 265C, 266A, 266B, 267A, 267B, 267C, 267E, 267S, 268A, 268B, 269A, 269B, 269C, 269D, 285A, 285B, 285C, 285D, 285E, 285L, 286A, 286B, M291A, M291B, M292A, M292B.

System Science Courses

120A, 120B, M120C, 121A, 122A, M123B, 128A, 128D, 128L, 129A, 129L, 201A-201ZZ, 220A, 220B, 220G, 221, 222A, 222B, 222C, 222EA-222EZ, M222F, M222G, 227A, 227B, 227C, 227EA-227EZ, 227F, 227G, 228A, 228B, 228CA-228CZ, 228D, 229A, 229B, 229C, 229EA-229EZ, 229J-K-L, 272A, 272BA-272BZ, 272C, 273A, M273B, 273CA-273CZ, 275A, 275B, M284A, 284XA-284XZ, M285A, M287A, M291A, M291B.

ENGINEERING

Lower Division Courses

5. Computers in the Man-Made World. An introduction to computers and computing for non-mathematically oriented students. How a computer functions and how one can "talk" to it will be explained through a study of logical circuits, memory, control, arithmetic, computer organization, and programming. Mr. Bussell (W)

10C. Introduction to Computing. (Formerly numbered 10.) Recommended for Math/Computer Science majors; (emphasis on numerical problems). Open to graduate students on a S/U basis only. Not open to students who have completed Engineering 10, 10F, or 10S. Algorithms and programming languages. Description and use of PL/1 programming language. Selected topics in numerical analysis. Organization and characteristics of digital computers. Machine language. Programming and running of several numeric and non-numeric problems. Mr. Levine (F,W,Sp)

10F. Introduction to Programming/FORTRAN. (Formerly numbered 10.) Recommended for Chemical, Nuclear and Thermal Engineering Department and Mechanics and Structures Department majors; (emphasis on numerical problems). Open to graduate students on S/U grade basis only. Not open to students who have completed Engr. 10, 10C or 10S. Description and use of FORTRAN programming language. Selected topics in programming techniques. Programming and running of several numeric problems. Mr. Levine (F,W,Sp)

10S. Introduction to Programming for Life and Social Sciences. (Formerly numbered 10.) Recommended for all majors except Math/Computer Science, and Engineering; (emphasis on non-numerical problems). Open to graduate students on S/U grade basis only. Not open to students who have completed Engr. 10, 10C or 10F. Description and use of PL/1 programming languages. Selected topics in numerical analysis and data processing. Programming and running of several numeric and non-numeric problems. Mr. Levine (F,W,Sp)

11. Patterns of Problem Solving. An introduction to patterns of reasoning in the process of problem solution and decision making. Exposure to concepts, theories and techniques in the analysis and synthesis of total systems in our complex technological civilization. Mr. Rubinstein (F,W,Sp)

12. Applied Patterns of Problem Solving. Prerequisite: course 11. An application of the tools and methods discussed in Engineering 11, to three specific problems of a social and technical nature. Mr. Rubinstein (W,Sp)

14. Science of Engineering Materials. Prerequisite: Chemistry 11A, 11B, 11BL; Physics 8A and 8B; Physics 8C (may be taken concurrently). (Not open for credit to students who have taken Engr. 107B.) General introduction to different types of materials used in engineering designs: metals, ceramics, plastics and composites, relationship between structure (crystals and microstructure) and properties of technological materials. Illustration of their fundamental differences, and their applications in engineering. Mr. Ono (F,W,Sp)

15. Introduction to Manufacturing Engineering. Manufacturing processes, materials and design in manufacturing; productivity, competitive aspects of manufacturing, manufacturing planning, production-scheduling, flexible manufacturing systems, economic and social aspects of manufacturing. Mr. Shabaik (F)

Upper Division Courses

100. Electrical and Electronic Circuits. Lecture, four hours; recitation, one hour. Prerequisite: Mathematics 31A, 31B, 32A, 33A, 33B; Physics 8C. Electrical quantities, circuit principles, signal waveforms, A.C. circuits, semiconductor devices, small signal models, amplifiers, electrical and electronic instruments. Mr. Luhmann (F,W,Sp)

100L. Circuit Analysis Laboratory. (½ course) Prerequisite: Physics 8C; Engineering 100, which should be taken concurrently. Experiments with circuits containing linear and nonlinear devices; transient and steady state behavior of circuits. Mr. Luhmann (F,W,Sp)

100B. Engineering Electromagnetics. Lecture, four hours; recitation, one hour. Prerequisite: Physics 8C, Mathematics 32A, 32B, or Mathematics 33A, 33B. Electromagnetic field concepts; Maxwell's Equations; static and quasistatic fields; field energy; energy flow and the Poynting vector; electromechanical interactions; waves in unbounded media and on two-wire transmission lines; reflection and refraction; lossy media; skin effect; analogs to electromagnetic fields. Mr. Alexopoulos (F,W,Sp)

102. Mechanics of Particles and Rigid Bodies. Lecture, three hours; recitation, two hours. Prerequisite: Mathematics 33A, Physics 8A. Newtonian mechanics (statics and dynamics) of particles and rigid bodies. Fundamental concepts of mechanics. Statics, kinematics, and kinetics of particles and rigid bodies. Impulse-momentum and work-energy relationships. Applications. Mr. Gibson (F,W,Sp)

103A. Elementary Fluid Mechanics. Prerequisite: Mathematics 32B, 33A, Physics 8B; Engineering 102 recommended. An introductory course dealing with the application of the principles of mechanics to the flow of compressible and incompressible fluids. Mr. Kelly, (F,W,Sp)

104. Introduction to Experimental Techniques. (½ course) Principles of simple machining operations, engineering drawing practices, soldering and welding techniques, vacuum systems, glassblowing, American standard sizes and color-codes, effective presentation of results. One lecture-demonstration per week. May be taken before junior year. To be graded on P/NP basis. Mr. Stern (F,Sp)

104C-104D. Undergraduate Research Laboratory. Laboratory, eight hours. Prerequisite: senior standing. Two quarter comprehensive projects in experimental engineering – research or design – involving laboratory work. Students may submit projects of their own choosing. May serve as basis for graduate research. Will satisfy Engineering laboratory requirement. Qualified non-engineering students are encouraged to enroll.
Mr. Campfield, Mr. Shabaik, Mr. Stern (F,W,Sp)

105A. Introduction to Engineering Thermodynamics. Lecture, 4 hours; recitation, 1 hour. Prerequisite: Physics 8B, Mathematics 32B. Phenomenological thermodynamics. Concepts of equilibrium, temperature and reversibility. First law and concept of energy; second law and concept of entropy. Equations of state and thermodynamic properties. Engineering applications of these principles in the analysis and design of closed and open systems. Mr. Nobe, Mr. Robinson (F,W,Sp)

105D. Transport Phenomena. Lecture, 4 hours; recitation, 1 hour. Prerequisites: Physics 8B; Mathematics 32B and 33A. Transport phenomena; heat conduction, mass species diffusion, convective heat and mass transfer, and radiation. Engineering applications in thermal and environmental control. Mr. Edwards, Mr. Mills (F,W,Sp)

106A. Principles of Engineering Economy. Prerequisite: upper division standing. Economic analysis of engineering projects; value systems; economic decisions on capital investment and choice of engineering alternatives; new projects, replacement and abandonment policies; risky decisions including make/buy policies and research investment; corporate financial practices and accounting. Mr. Dracup (F,W,Sp)

106B. Introduction to Design and Systems Methodology. Prerequisite: Engineering 10C; Mathematics 32A-32B, 33A-33B. Theory of engineering design and synthesis. Models and modeling. Analysis, test and evaluation. Methods for design optimization. Elementary decision theory. Student's design projects. Mr. Rosenstein (F,W,Sp)

106C. Experimental Design Laboratory. Laboratory, eight hours. Prerequisite: course 106B or equivalent. Creative experimental projects for student designs in any engineering domain where individual students have preparation and interest, exemplifying the professional method. Predicted idealized performance is compared to experimentally achieved realities. Student prize competition entries are encouraged. Mr. Nottage, Mr. O'Brien (F,W,Sp)

106D. Engineering Systems Design Laboratory. Recitation, one hour; laboratory, eight hours. Prerequisite: course 106C. 104 recommended. Advanced senior standing required. Similar to 106C and normally a continuation thereof. Design projects generally emphasizing productivity, energy, environments, and process cost-benefit studies. Mr. Nottage, Mr. O'Brien (W)

M107A. Principles of Biotechnology. (Same as Psychology M153.) Prerequisite: third quarter sophomore or higher standing. The principles of biological science are developed in an engineering context. An emphasis is placed on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational and managerial systems by engineering means. Mr. Lyman (F,W,Sp)

108. Introduction to Mechanics of Deformable Solids. Lecture, 3 hours; recitation, 1 hour. Prerequisite: Mathematics 33A (may be taken concurrently); Engineering 102 is recommended. Review of equilibrium principles. Concepts of stress and strain. Material constitution (stress-strain relations). Energy in deformable bodies. Structural applications to trusses, beams, shafts, columns and pressure vessels. Mr. Nelson (F,W,Sp)

109. The Engineer and Society. Prerequisite: senior standing. Selected lectures, discussions, oral and written reports related to creative engineering, its sociological and ecological impacts, present, future, and past relationships. Maximum student participation in topical selection and class structuring. Creativity and original thinking is emphasized. Mr. Ingersoll (F,W,Sp)

110A. Basic Circuit Theory I. Prerequisite: course 100. The zero-input, zero-state, transient, steady-state, and complete response of first-order and second-order circuits. Linear time-invariant networks; step response, impulse response, convolution integral. Sinusoidal steady-state analysis. Coupling elements and coupled circuits. The Laplace transform. Mr. Willson (F,W)

110B. Basic Circuit Theory II. Prerequisite: course 110A. Elementary graph theory, general methods of analyzing electric circuits. Introduction to state equations, natural frequencies. Properties of network functions. Network theorems. Methods of characterizing two-port networks. Mr. Orchard (W,Sp)

110C. Passive Network Synthesis. Prerequisite: course 110B or equivalent. Properties of positive real functions and tests for positive realness. Synthesis of one and two-port RLC and two-element kind networks. Mr. Temes (F,Sp)

111A. Electric Power Systems. Prerequisite: course 100. Overall electric power system requirements; typical systems; one-line diagrams. Per-unit quantities; characteristics of machines, transformers, overhead lines and cables; steady-state analysis of systems. Power limits and stability; fault calculations; relays and relay systems. Mr. Schott (W)

111B. Electromechanical Energy Conversion. Prerequisite: course 100. Energy conversion and power flow in electromechanical interactions; electromechanics of actuators and rotating a.c. synchronous and induction machines and d.c. machines. Linear machines. Mr. Schott (F)

113A. Introduction to Lasers and Quantum Electronics. Prerequisite: course 100B or equivalent or consent of the instructor. Physical principles and applications of lasers and other quantum electronic devices. Interferometers, crystal optics, gain and saturation phenomena, and gas discharges. Mr. Casperson, Mr. Stafsudd (F)

113B. Laser Laboratory. (½ course) Recitation, one hour; laboratory, three hours. Prerequisite: course 100B or equivalent or consent of the instructor. Properties of lasers including saturation, mode-locking and relaxation effects, and laser applications including optics, modulation, communication, holography, interferometry and nonlinear effects. Mr. Casperson, Mr. Stafsudd (F,Sp)

115A. Fundamentals of Solid State I. Prerequisite: junior standing in Engineering; course 130A or equivalent is recommended. Introductory atomic concepts, quantum mechanical principles, energy level in complex atoms, quantum statistics, crystal structure, energy levels in solids, band theory. Mr. Viswanathan (F,Sp)

115B. Fundamentals of Solid State II. Prerequisite: course 115A. A discussion of the solid state properties, lattice vibrations, thermal properties, dielectric, magnetic, and super-conducting properties. Mr. Stafsudd (W)

115C. Semiconductor Physical Electronics. Prerequisite: course 115B. Band structure of semiconductors, homogeneous semiconductors, excess carriers in semiconductors, semiconductor surfaces, optical and thermal properties; application to design of devices. Mr. F.G. Allen, Mr. Pan (Sp)

115D. The Principles of Semiconductor Devices. Prerequisite: senior standing in Engineering. Semiconductor technology, Schottky barrier, p-n junction, MOS capacitance, transistor fundamentals, drift transistor, high frequency properties, field effect transistors, integrated electronics, applications and design of devices. Mr. F.G. Allen, Mr. K.L. Wang (F,W)

115E. Solid State Electronics Laboratory. (½ course) Prerequisite: course 115C. Experimental measurement of electronic, magnetic, thermal and optical properties of p- and n-type semiconductors; as used in the design of devices. Mr. F.G. Allen, (W)

115F. Semiconductor Devices Laboratory. (½ course) Prerequisite: course 115D. Design, fabrication and characterization of junction, field effect and other semiconductor devices. In particular the student will perform various processing tasks such as wafer preparation, oxidation, impurity diffusion, metallization, sintering and photolithography. Mr. F.G. Allen, Mr. K.L. Wang (F,Sp)

116A. Electronics I. Prerequisite: course 100. Equivalent circuit modeling of electron devices. Device-circuit-environment interactions. Design of single-stage amplifiers. Introduction to cascaded stages, coupling problems and frequency response. Mr. Knorr (F,W,Sp)

116B. Electronics II. Prerequisite: course 116A. Electron device-circuit-environment interactions with emphasis on multistage amplifiers. Tuned amplifier considerations. Nonlinear situations requiring graphical method of solution. Emphasis on design techniques including economics, reliability and realization of performance specifications. Mr. Willis (F,W,Sp)

116C. Pulse and Digital Methods. Prerequisite: courses 116A, 116B. Analysis and design of switching-mode electronic circuits and systems including pulse generation, logic operations, timing and frequency counting. Mr. Knorr (W,Sp)

116D. Electronic Signal Processing. Prerequisite: courses 116B, 121C. Signals and spectra. Signal distortion in transmission filters, transmission bandwidth requirements. Random signals and noise, linear modulation, exponential modulation circuits and characteristics. Commercial communication systems. Mr. Willis (F,Sp)

116L. Electronics I Laboratory. (½ course) Prerequisite: course 100L; 116A recommended. Experimental determination of device characteristics, resistive diode circuits, single-stage amplifiers, compound transistor stages, effect of feedback on single-stage amplifiers. Mr. Knorr (F,W,Sp)

116M. Electronics II Laboratory. (½ course) Prerequisite: course 116L; 116B recommended. Experimental and computer studies of multistage, wideband, tuned and power amplifier, and multiloop feedback amplifiers. Introduction to Thick Film Hybrid Techniques. Construction of amplifier using hybrid thick film techniques. Mr. Willis (F,W,Sp)

116N. Pulse and Digital Methods Laboratory. (½ course) Prerequisite: course 116M; 116C to be taken concurrently. Experimental and computer studies of diode and transistor switching and timing circuits. Linear and nonlinear wave shaping techniques. Waveform generation. Mr. Knorr (Sp)

117A. Electromagnetic Waves I. Prerequisite: course 100B. Review of transmission line theory; guided waves in enclosed waveguide and on surfaces; Smith Chart; excitation of guided waves; phase and group velocity; cavity resonators; concept of Q; perturbation theory; waves in complex media (ferrites, crystals, semiconductors, plasmas). Mr. Schott (F,Sp)

117B. Electromagnetic Waves II. Prerequisite: course 117A. Retarded potentials. Actual and equivalent sources. Far-field patterns of dipoles, loops, and helices. Reciprocity, directivity, beamwidth, and sidelobe level of antenna patterns. Analysis of linear arrays. Schelkunoff unit circle. Feeding networks. Self and mutual impedance of antenna elements. Mr. Elliott (W)

117D. Electromagnetic Waves IV. Prerequisite: course 117A. Special relativity; relativistic kinematics; field transformations; particle trajectories in electromagnetic fields; radiation from accelerated changes; waves in active media, microwave sources. Mr. C.W. Yeh (F, even years)

117E. Modern Optics. (Formerly numbered 117C.) Prerequisite: course 117A. Two dimensional transforms. Diffraction methods. Geometrical optics and applications. Gaussian beams. Coherent and incoherent imaging systems. Optical processing methods. Holography and applications. Mr. Alexopoulos, Mr. Cordero (Sp)

117L. Electromagnetics Laboratory. (½ course) Prerequisite: course 117A; course 117B may be taken concurrently. Experimental investigation of

NOTE: For key to symbols, see pages 65 and 66

microwave and millimeter wave sources; coaxial, waveguide strip line transmission systems; detectors and power measuring devices; cavity resonator studies; antenna impedance and radiation characteristics. Mr. Luhmann, Mr. Schott (W)

M118. Plasma Physics. (Same as Physics M122.) Prerequisite: course 100B or Physics 110A. Senior level introductory course to physics of plasmas and ionized gases and fundamentals of controlled fusion. Particle motion in magnetic fields; fluid behavior, plasma waves; resistivity and transport; equilibrium and stability; kinetic effects. Illustrative laboratory experiments will be discussed.
Mr. Chen (F,Sp)

120A. Probability. Prerequisite: Mathematics 32B and 33B. An introduction to the theory and application of probability, including random variables and vectors, distributions and densities, characteristic functions, limit theorems, preliminary concepts of stochastic processes.
Mr. Carlyle, Mr. Omura, Mr. Subelman (F,W)

120B. Stochastic Processes. Prerequisite: course 120A or comparable background in probability (e.g., Mathematics 150A-150B), course 121C or equivalent recommended (may be taken concurrently). An introduction to the theory and application of stochastic models, emphasizing stationary processes and filtering. Random signals and noise, correlation, linear systems; mean-square estimation, the orthogonality principle, Weiner and Kalman filters. Mr. Mortensen, Mr. Yao (W,Sp)

M120C. Stochastic Processes. (Same as Mathematics M151.) Prerequisite: course 120A or Mathematics 150A-150B, or Mathematics 152A and consent of the instructor. An introduction to the theory and application of stochastic models, emphasizing Markov chains and pure jump processes; illustrations from queueing systems, point processes, birth and death processes, renewal theory; Poisson processes, Brownian motion.
Mr. Miller, Mr. Rubin (F)

121A. Elements of System Analysis. Prerequisite: Mathematics 33A-33B or 31C-32C. Not open for credit to those who have completed Engineering 121C. Intended for students whose undergraduate majors are not in Engineering. Basic concepts of systems, dynamics, input-output behavior, analysis of signals; illustrations drawn from such fields as control and communication, economics and management sciences, life sciences, computer sciences.
Mr. Aoki, Mr. Carlyle (W)

121C. Systems and Signals. Lecture, three hours; recitation, two hours. Prerequisites: Mathematics 32A-32B; 33A-33B or 31C-32C; Physics 8A-8B-8C, Recommended: Engineering 100 or 102 or Physics 8D. Introductory course with illustrations from physical and life sciences. Input-output descriptions of systems, linearity; impulse and frequency responses, Fourier methods; transforms, analysis of signals. Introduction to digital filtering and Fast Fourier Transform. Computational aspects of system modelling and identification.
Mr. Levan, Mr. P.K.C. Wang (F,W,Sp)

122A. Principles of Feedback Control. Prerequisite: course 121C or consent of the instructor. Classical methods of analysis and design of feedback control systems, as applied to problems selected from engineering, biology and related areas.
Mr. Aoki, Mr. Wiberg (W)

M123B. Theoretical Models in Computer Science. (Same as Computer Science M123B; formerly numbered Engineering 123B.) Prerequisite: senior standing or consent of the instructor. Sets, strings, and languages. Phrase-structure languages. Finite-state languages and finite-state automata. Context-free languages and pushdown store automata. Unrestricted phrase-structure languages and Turing machines. Context-sensitive languages and linear-bounded automata. Elementary decision problems of automata and languages.
Ms. Friedman, Ms. Greibach, Mr. Martin (F,W,Sp)

M124A. Applied Numerical Computing. (Same as Computer Science M124A; formerly numbered Engineering 124A.) Prerequisite: Engineering 10C and Mathematics 33A-33B or equivalents. An introduction to scientific computing and an application-oriented survey of computing techniques for several important classes of problems, including matrix computations, root-finding, ordinary differential equations, interpolation and approximation. Student computing exercises.
Mr. Carlyle, Mr. Karplus (F,W,Sp)

127B. Elements of Probability and Information. Prerequisite: Mathematics 33A, or consent of the instructor. An introduction to finite systems for coding and transmission of messages as character strings. Basic laws of probability and decision in finite systems. Information sources, entropy, noisy channels, capacity, discussion of the meaning and application of Shannon's theorems.
Mr. Omura (F,W)

128A. Linear Systems: The State Space Approach. Prerequisite: course 121C. State-space methods of linear system analysis and design, with application to problems in networks, control, and system modeling. Mr. Levan, Mr. P.K.C. Wang (F,W)

128D. Discrete Systems and Automata. Prerequisite: two quarters of lower-division mathematics or comparable experience with mathematical ideas, such as in linguistics or basic courses in logic or computer programming. An introductory course, emphasizing finite-state systems: graphs, machines, languages, regular expressions, coding, computing; memory, system identification, diagnosis; design considerations.
Ms. Greibach, Mr. Yao (Sp)

128L. System Science Laboratory. Laboratory, eight hours. Prerequisite: two courses numbered Engineering 120 through 129, and consent of the instructor. Laboratory studies such as: applications of interactive computing and online graphics; waveform generation, spectral analysis, random signals; control, servomechanisms, stability; holography, spatial signal processing. Students will have the opportunity to use computer facilities and contemporary equipment for measurement and data analysis.
Mr. Carlyle, Mr. P.K.C. Wang, Mr. Yao (Sp)

129A. Introduction to Optimization Techniques. Prerequisite: Mathematics 32A and 33A and some knowledge of digital computer programming or consent of the instructor. Optimization of functions of many variables, unconstrained and with linear or nonlinear constraints. Nonlinear programming algorithms. Direct search, gradients, Lagrange multipliers, penalty functions, etc. Duality. Sample problems from engineering, economics, management, operations research. Students will solve problems on digital computers.
Mr. Jacobsen, Mr. P.K.C. Wang (W)

129L. Linear Programming and Operations Research. (Formerly numbered Engineering 172A.) Prerequisite: Mathematics 33A or equivalent knowledge of elements of linear algebra. An introduction to the formulation and solution of linear programming problems in operations research, with application to engineering and economic systems. The simplex algorithm; duality; geometry of linear programs; decomposition; selected topics in extensions of linear programming.
Ms. Greibach, Mr. Jacobsen, Mr. Subelman (F,Sp)

130A. Introduction to Statistical Thermodynamics. Prerequisite: course 105A. Calculations of expected values and variances of thermodynamic functions for perfect monatomic gas, Einstein monatomic crystal, photon gas, electron gas in a metal, perfect adsorbed gas, perfect diatomic gas, and Debye monatomic crystal. Calculations of gross emission rates from surfaces.
The Chemical Engineering Staff (F)

131A. Intermediate Heat Transfer. Prerequisite: course 105D. Steady conduction: two-sided, two-ended, tapered, and circular fins; buried cylinders, thick fins. Transient conduction: slabs, cylinders, products. Convection: transpiration, laminar pipe flow, film condensation, dimensional analysis, working correlations. Surface radiation. Two-stream heat exchangers. Elements of thermal design. Mr. Edwards (F,W,Sp)

132A. Mass Transfer. Prerequisite: course 105D or 131A. The principles of mass transfer by diffusion. Mass transfer by convection in laminar and turbulent flows. Simultaneous heat and mass transfer. Applications including combustion of solids and volatile fuels, evaporation and condensation, ablation and transpiration cooling, gas absorption and catalysis. Mr. Mills (F)

133A. Engineering Thermodynamics. Prerequisites: Engineering 103A, 105A and 105D. Applications of thermodynamic principles to engineering processes. Energy conversion systems, Rankine cycle and other power cycles, refrigeration, psychrometry, reactive and non-reactive fluid flow systems.
The Staff, Chemical, Nuclear andThermal Engineering Department (F,W,Sp)

134A. New Energy Technology: Resources, Conversion, Constraints. Prerequisite: course 105A or equivalent in Physics or Chemistry, or consent of the instructor. Energy resources: fossil fuels (fuel to fuel conversions), nuclear fuels, geothermal sources, solar power, etc. Conversion methods for power production and other energy uses. Consideration of thermodynamic, economic and environmental constraints.
The Staff,Chemical, Nuclear and Thermal EngineeringDepartment (W)

134B. Solar Energy Use and Control. Prerequisite: course 105D or equivalent; or consent of the instructor. Nature and availability of solar radiation; review of selected heat transfer topics pertinent to solar energy collection and use; design analysis of nonfocusing solar energy collector-converters and methods of energy storage; selected applications. Mr. Buchberg (F)

134C. Chemical, Nuclear and Thermal Pollution of the Environment. Prerequisite: upper division standing. Description of the environment and the nature of environmental problems. Emphasis on the atmosphere and water as receptors of man-made and natural pollution; a description of sources of pollution, alternatives for control, and transport in the environment.
The Staff, Chemical, Nuclear and Thermal Engineering Department

135A. Nuclear Reactor Theory I. Prerequisite: junior standing. Introduction to nuclear reactor theory, basic physics, neutron cross sections, nuclear fission, elementary analysis of homogeneous reactor cores. Multi-region reactors, and one and two group diffusion theory. Mr. Pomraning (F)

135AL. Nuclear Analysis Laboratory I. (½ course) Laboratory, four hours. Prerequisite: Engineering 135A, should be taken concurrently. A laboratory course in nuclear engineering comprised of various experiments in reactor core physics and related fields. The experiments will consist of measuring and calculating reactor core physics parameters, and pertinent heat transfer/fluid flow parameters.
Mr. Catton (F)

135B. Nuclear Reactor Theory II. Prerequisite: Engineering 135A. Introduction to slowing down, thermalization, multi-group theory, heterogeneous effects, reactor kinetics, and perturbation theory.
Mr. Apostolakis (W)

135BL. Nuclear Analysis Laboratory II. (½ course) Laboratory, four hours. Prerequisite: Engineering 135B, should be taken concurrently. A laboratory course in nuclear engineering comprised of various experiments in reactor core physics and related fields. The experiments will consist of measuring and calculating reactor core physics parameters, and pertinent heat transfer/fluid flow parameters.
Mr. Catton (W)

135C. Introductory Nuclear Reactor Design. (Formerly numbered Engineering 135D.) Prerequisites: Engineering 135A, 135B. (Not the same as

Engineering 135C prior to Spring Quarter 1980). Reactor physics, engineering, fuel element design for nuclear reactor cores, criticality, reactivity considerations, and effects; power distributions; differences among various power reactor systems. Introduction to the use of physics design computer codes. Mr. Okrent (Sp)

135E. Neutron Activation Analysis Laboratory. Prerequisite: upper division standing in Engineering; Chemistry 11A-B, Mathematics 31A-B; Physics 6A-B or Physics 8A-B. Application of neutron activation as a tool for research in the physical sciences. Emphasis will be on the nuclear reactor as a neutron source. Topics include nuclear chemistry, radiation detectors and analyzers with computer handling of the spectral data. Mr. Catton (Sp)

135F. Experimental Reactor Operations, Control and Safety. (½ course) Laboratory, four hours. Prerequisite: course 135A. Operation of the UCLA R-1 Argonaut reactor, measurements of various core parameters and control system responses and evaluation of various safety systems through experimentation. Experiments not included in Engineering 139A, 135B, 135C will be conducted. Mr. Catton (Sp)

136A. Introduction to Probabilistic Risk Analysis. (Formerly numbered Engineering M136A.) Prerequisite: consent of the instructor. Probabilistic models for the failure of components and systems. Redundant systems. Maintenance models. Fault and event tree analysis. Applications to nuclear reactor systems.
Mr. Apostolakis (F, even years)

136B. Nuclear Reactor Thermal Hydraulic Design. (Formerly numbered 135E.) Prerequisites: Engineering 105A, 105D, 131A, (135A recommended). Thermohydraulic design of various nuclear power reactor concepts; power generation and heat removal; power cycle, thermal and hydraulic component design; overall plant design; steady state and transient nuclear system operation. Mr. Dhir (W)

136C. Fundamentals of Nuclear Reactor Materials. Prerequisites: Physics 8D, Mathematics 33A, Engineering 14. Function and choice of materials in reactors. Point defects. Diffusion in solids. Fuel element thermal performance. Behavior of fission products. Fuel swelling radiation effects in metals; hardening, embrittlement and fracture; nuclear fuel equation of state; fuel element design. Mr. Ghoniem (Sp)

137. Introduction to Chemical Engineering. Prerequisites: Mathematics 33A and Engineering 105A. Introduction to the analysis and design of industrial chemical processes. Material and energy balances.
The Chemical Engineering Staff (F,Sp)

137A. Chemical Engineering Thermodynamics. Prerequisites: 105A, 137 (or consent of the instructor). Thermodynamic properties of pure substances and solutions. Phase equilibrium. Chemical reaction equilibrium.
The Chemical Engineering Staff (F,W)

137B. Chemical Engineering Separation Operations. Prerequisites: Engineering 105D, 137A. Application of the principles of heat, mass and momentum transport to the design and operation of separation processes such as distillation, gas absorbtion, filtration and reverse osmosis.
The Chemical Engineering Staff (F,W)

137C. Chemical Engineering Kinetics. Prerequisites: Engineering 105D, 137A. Fundamentals of chemical kinetics and catalysis. Introduction to the analysis and design of homogeneous and hetergeneous chemical reactors.
The Chemical Engineering Staff (W)

137D. Chemical Engineering Design. Prerequisites: Engineering 137B, 137C. Integration of chemical engineering fundamentals such as chemical reactor design and separation operations/and simple economic principles for the purpose of designing complete chemical processes.
The Chemical Engineering Staff (Sp)

137E. Diffusion and Interfacial Transfer. Prerequisites: Engineering 105D and 137A. Brownian motion, fluxes according to irreversible thermodynamics; one-dimensional theory: membrane transport, facilitated transport; convective diffusion, concentration boundary layers, turbulent diffusion. The fundamentals will be illustrated by applications to separation processes, gas cleaning and blood oxygenation.
The Chemical Engineering Staff (Sp)

138A. Introduction to Cryogenics and Low Temperature Processing. Prerequisite: Engineering 105A. Liquefaction of gases, cooling to cryotemperatures, LNG processes, liquid hydrogen, and liquid He cryosystems for superfluids and applied superconductivity.
Mr. Frederking (W, even years)

139A. Introductory Chemical, Nuclear, and Thermal Engineering Laboratory. Laboratory, eight hours. (Not the same as Engineering 139A prior to Winter Quarter 1977.) Prerequisites: courses 103A, 105A, 105D. Basic introductory laboratory experiments illustrating the equilibrium state properties and transport response to applied driving forces in energy transformation and rate processes. Experiments include examples from thermodynamics, chemical engineering, heat and mass transfer, nuclear engineering, and environmental problems.
The Staff, Chemical, Nuclear and Thermal Engineering Department (F,W,Sp)

139B. Chemical and Thermal Engineering Laboratory. Laboratory, eight hours. (Formerly numbered 139A. Not open to students who have taken Engineering 139A prior to Winter Quarter 1977.) Prerequisites: courses 131A, or 137A and 139A. Basic laboratory practice for the study of energy transformation and rate processes. Selected experiments include examples from thermodynamics, heat and mass transfer, chemical and electrochemical processes, cryogenics, chemical kinetics, molecular dynamics, saline water conversion and environmental problems.
The Staff, Chemical, Nuclear, and Thermal Engineering Dept. (F,W,Sp)

140D. Solid State Electronic Materials. Prerequisites: Engineering 14. Principles of nucleation and crystal growth from the melt and vapor. Solute redistribution in the melt; preparation of semiconductor single crystals and thin films. Phase diagrams. Preparation of p-n junctions by the liquid-phase-epiaxy and diffusion techniques. Electrical properties of solar cells. Field trips. Mr. Yue (Sp)

140E. Materials Selection and Engineering Design. Prerequisite: Engineering 14 or consent of instructor. Explicit guidance among the myriad materials available for design in engineering. Properties and applications of steels, nonferrous alloys, polymeric, ceramic and composite materials, coatings. Materials selection, treatment and serviceability emphasized as part of successful design. Design projects. Mr. Yue (W)

140L. Introductory Engineering Materials Laboratory. (½ course) Prerequisite: course 14. Introduction to several laboratory and shop techniques used in fabricating and characterizing different types of materials involved in engineering design. Mr. Yue (W,Sp)

140X. Experimental Methods of Materials Research. (¼ to 1 course) Lab, 2-8 hours; recitation, 1-4 hours. Prereqisies: Engineeing 14 or equivalent and consent of the instructor. Course intended for students wishing to learn individually laboratory techniques for preparation, processing, and characterization of materials. Students will operate various modern intruments, including electron microscopes, X-ray diffraction apparatus, mechanical testing machines and high temperature furnaces. Mr. Ono (F,W,Sp)

***141. Phase Relations in Solids.** Prerequisites: courses 14, 105A. Summary of thermodynamic laws, equilibrium criteria, solution thermodynamics, mass-action law, binary and ternary phase diagrams, glass transitions. Mr. Knapp

142A. Diffusion and Diffusion-Controlled Reactions. (Formerly numbered 142.) Prerequisite: course 141. Diffusion in metals and ionic solids, nucleation and growth theory; precipitation from solid solution, eutectoid decomposition, design of heat treatment processes of alloys, growth of intermediate phases, gas-solid reactions, design of oxidation-resistant alloys, recrystallization and grain growth. Mr. Douglass (F)

142L. Diffusion and Diffusion-Controlled Reactions Laboratory. (½ course) Prerequisite: course 142A to be taken concurrently. Not open for credit to students who have taken Engineering 142. Design of heat-treating cycles and performing experiments to study interdiffusion, growth of intermediate phases, recrystallization, and grain growth in metals. Analysis of data. Comparison of results with theory. Mr. Douglass (F)

143A. Mechanical Behavior of Materials. Prerequisite: courses 14 and 108 or equivalent. Plastic flow of metals under simple and combined loading, strain rate and temperature effects, dislocations, fracture, microstructural effects, mechanical and thermal treatment of steel for engineering applications. Mr. Ono, Mr. Shabaik (W)

143L. Mechanical Testing Laboratory. (½ course) Prerequisite: courses 14, 108; one or more of courses 143A, 158A, 166A recommended. Experimental techniques for the measurements of mechanical properties of engineering materials. Elastic constants, tensile, compression and bend testing, fracture toughness, fatigue and creep testing. Mr. Ono, Mr. Shabaik (W)

144A. Polymer Science. (Formerly numbered Engineering 149A.) Prerequisites: consent of the instructor. Polymerization mechanisms, molecular weight and distribution, chemical structure and bonding, structure crystallinity, and morphology and their effects on physical properties. Glassy polymers, spring polymers, elastomers, adhesives. Fiber forming polymers, polymer processing technology, plasticiation. Mr. Cannon (W)

144L. Design of Specific Polymeric Systems. (½ course) (Formerly numbered 149L.) Prerequisite: course 144A or consent of the instructor. Encapsulation of circuit boards, corrosive fluid containers; compatability problems, polymeric chair bases, motor vehicle tires; compatability and bonding problems, design of fiber reinforced polymeric systems, polymer-metal articulating surfaces, passenger restraint systems. Mr. Cannon (Sp)

145A. Introduction to Materials Characterization. Prerequisite: course 140C or equivalent. Modern methods of materials characterization; X-ray diffraction and spectroscopy; principles of metallography; scanning and transmission electron microscopy; analysis and evaluation of engineering materials. Mr. Ardell, Mr. Wagner (Sp)

145L. Materials Characterization Laboratory. (½ course) Prerequisite: course 145A. Modern laboratory techniques for the microstructural characterization of materials; X-ray powder method; X-ray spectroscopy (wavelength and energy dispersive) for chemical analysis; optical and electron microscopy, quantitative metallography; surface topography.
Mr. Ardell, Mr. Wagner (Sp)

146A. Introduction to Ceramics and Glasses. Prerequisite: course 14 or equivalent. An introduction to ceramics and glasses being used as important materials of engineering, processing techniques and unique properties. Examples of design and control of properties for certain specific applications in engineering. Mr. Mackenzie (W)

146B. Processing of Ceramics and Glasses. Prerequisite: course 146A or equivalent. A study of the processes used in fabrication of ceramics and glasses, relationship to structure and properties. Processing operations including materials preparation, forming, sintering and melting. Design of processing to achieve desired characteristics of structure, properties and cost. Mr. Knapp (Sp)

NOTE: For key to symbols, see pages 65 and 66

146D. Structure and Properties of Ceramics and Glasses. Prerequisite: course 146A or equivalent. Relationship between crystal structure and microstructure of ceramics and properties. Defects and impurities. Correlation of composition, structure, and properties of glasses. Phase transformations. Factors controlling properties such as strength, electrical resistivity, ferrimagnetism, ferroelectricity, optical transmission, and thermal expansion. Mr. Mackenzie (F)

146L. Laboratory in Ceramics. (½ course) Prerequisite: course 146A or equivalent; 146B recommended to be taken concurrently. Processing of common ceramics and glasses. Attainment of specific properties through process control for engineering applications. Quantitative characterization and selection of raw materials. Slip casting and extrusion of clay bodies. Sintering of powders. Glass melting and fabrication. Determination of chemical and physical properties.
Mr. Knapp (Sp)

147A. Introduction to Metallurgy. Prerequisite: course 14. Introduction to metallic alloys used in engineering design. Processing of metals, phases in metal systems, phase diagrams, metal forming, steels and cast iron, nonferrous alloys, design of metallic alloys for specific applications.
Mr. Bunshah, Mr. Wagner (F)

147B. Metal Fabrication Processes. Prerequisite: course 14. Theoretical basis for cold forming and hot forming processes; rolling, extrusion and forging. Conventional metal removal. Solidification processes and casting. Powder metallurgy.
Mr. Shabaik (Sp)

147E. Vacuum Metallurgy. Prerequisite: course 141 or equivalent. Metallurgical processes carried out in vacuum including melting, purification, heat treatment, degassing of liquid metals, joining. Properties and applications of these materials.
Mr. Bunshah (W)

147L. Metal Fabrication Processes Laboratory. (½ course) Prerequisite: course 147B. Experimental investigation and analysis of metal forming processes (forging, extrusion, drawing and rolling). Force measurements and energy calculations in metal cutting. Experimental investigation of hot and isostatic pressing of powder.
Mr. Shabaik (Sp)

147M. Metallurgy Laboratory. (½ course) Prerequisite: course 147A. Design of preparation and heat-treatment cycles of alloys for specific applications. Casting, fabrication, metallography, equilibrium diagrams, precipitation-hardening, heat-treatment of steels. Mr. Wagner (Sp)

148. Nondestructive Evaluation of Materials. Lecture, three hours; demonstration, one hour. Prerequisite: one or more of Engineering 143A, 145A, 146A,147A, 147B. Interaction of acoustic wave and electromagnetic radiation with solids. Ultrasonic pulse-echo and spectroscopy. Radiography, magnetic particle, eddy current and fluid penetrant techniques. Practical applications of flaw detection in castings, forgings and pressure vessels. Potential methods including acoustic emission and holography. Mr. Ono (F)

149C. Properties of Art Ceramic Materials. (Formerly numbered Engineering 146C.) Lecture, three hours; laboratory, three hours. Composition and properties of art ceramics and glazes. Ceramic raw materials and their functions in bodies and glazes. Design of glazes and methods of expressing composition. Laboratory projects will be included (Not intended for Engineering Majors.)
Mr. Knapp (F)

149E. Ceramic Materials in History and Archaeology. (Formerly numbered Engineering 146E.) Lecture, two hours; laboratory, four hours. Prerequisite: consent of the instructor. A technical introduction to the origins and evolution of ceramics and related materials, with emphasis on fabrication processes and raw materials. Laboratory exercises are aimed at the development of skills necessary for analytical studies. (For students in the Humanities and Sciences.) Mr. Knapp (W)

150A. Applied Fluid Mechanics I. Prerequisite: course 103A or consent of the instructor. The course will provide students with a working knowledge of incompressible fluid mechanics. Equations of motion will be derived and applied to a variety of engineering fields. These will include flow over bodies, turbulent flow in pipes, open channel flow, ocean waves, and porous media.
Mr. Kelly (F,W)

150B. Applied Fluid Mechanics II. Prerequisite: course 103A or equivalent, or consent of the instructor. Gas dynamics: isentropic flow in nozzles, normal and oblique shocks, Prandtl-Meyer expansion fan, effects of friction and heat transfer in channel flows, thin airfoils in supersonic flow. Viscous flow; exact solutions of Navier-Stokes equations, boundary layer theory, instability, turbulence, separation. Mr. Charwat, (W,Sp)

151. Performance of Vehicles. Prerequisite: courses 103A, 105A. Preliminary design analysis of the performance of a variety of vehicles, including automobiles, trains, aircraft, rocket-powered vehicles, ground effect machines, ships and sailboats; performance parameters will include speed, range, payload, efficiency, dynamics and stability, noise, and air or water pollution. Mr. Charwat (F)

152. Hydraulics and Flow Machinery. Prerequisite: course 103A. Flow in open and closed conduits; distribution and dispersion (mixing) problems. Unsteady effects: transients, resonances. Fluid energy sources: winds, waves, tides, rivers. Design of turbines, pumps and fans. Activators and fluidic logic elements. Mr. Charwat (F)

153A. Engineering Acoustics. Prerequisite: upper division standing in Engineering or consent of the instructor. Fundamental course in acoustics. Includes: the ear and hearing; basic acoustical instrumentation; propagation of sound; sources of sound; architectural reverberation; selected subjects. Mr. Stern (F)

153B. Acoustics Laboratory. Laboratory, eight hours. Prerequisite: course 153A (may be taken concurrently) or consent of the instructor. Experimental studies in the field of acoustics, including audiometry, noise and noise control, acoustical filters, impedance measurements, transducer characteristics and interferometry. Occasional field trips may be necessary to obtain data.
Mr. Stern (W)

153C. Noise and Noise Control Design. Prerequisite: course 153A or consent of the instructor. Practical concepts in design, construction, measurement and analysis of noise suppression techniques. Includes equipment, transducers, environmental factors in sound propagation, enclosures, properties of materials, sound interaction in structures, mufflers, isolators, damping of panels, ducts, aerodynamic noise, noise criteria and standards. Mr. Stern (W, even years)

154A. Aerodynamic Design. (Formerly numbered 150C.) Prerequisites: courses 103A, 150A. This course presents the classical ideas of aircraft aerodynamics. Lift, drag, thrust, and power are discussed, then aircraft performance and stability. The quarter assignment is the preliminary design of an aircraft satisfying specifications set by the instructor. Mr. Friedman (W)

154B. Design of Aerospace Structures. (Formerly numbered 168.) Prerequisites: courses 154A, 166. Design of aircraft, helicopter, spacecraft and related structures. External loads, internal stresses. Applied theory of thin-walled structures. Material selection, design using composite materials. Design for fatigue prevention and structural optimization. Field trips to aerospace companies.
Mr. Friedmann (Sp)

155. Intermediate Dynamics. Prerequisite: course 102 or equivalent. Not open for full credit to students having taken 102B. The axioms of Newtonian mechanics, generalized coordinates, Lagrange's equations, variational principles; central force motion; kinematics and dynamics of a rigid body, Euler's equations, motion of rotating bodies, oscillatory motion, normal coordinates, orthogonality relations, the vibrating string.
Mr. Forster (Sp)

156A. Advanced Strength of Materials. Prerequisite: course 108. Columns and beam columns. Torsion; Airy's stress functions, stress concentrations. Loads on balls, rollers. Rotating disks, thick hollow spheres, thick hollow circular cylinders, curved beams, coiled springs. Mr. Lin (Sp)

157. Experimental Techniques in Mechanics. Laboratory, eight hours. Methods of measurement in mechanics and fluid mechanics. Primary sensors, transducers (motion, force, fluid flow, temperature). Signal processing, analogue and digital recording. Theory of data analysis. Course consists of lectures and laboratory sessions.
Mr. Charwat (F,W,Sp)

157A. Fluid Mechanics Laboratory. Laboratory, eight hours. Prerequisite: courses 103A, 157. Course provides a background in experimental techniques in fluid mechanics. Most work will be in the laboratory. Students will take part in three experiments, each of which will study a practical problem while giving hands-on experience with various measurement techniques.
Mr. Charwat (Sp)

157B. Experimental Fracture Mechanics. Lecture, two hours; laboratory, four hours. Prerequisite: course 157 or equivalent. Elementary introduction to fracture mechanics and experimental techniques used in fracture, crack tip stress fields, strain energy release rate, fracture characterization, compliance calibration, surface flaws, fatigue crack growth and fatigue life of structural components, mixed mode fracture and individual projects.
Mr. Fourney, Mr. Westmann (W)

158A. Elasticity and Plasticity. Prerequisite: Mathematics 32B. Three-dimensional stress and strain. Criteria for prediction of mechanical failure. Differential equations in three dimensions; analytical, numerical, and experimental solutions of plane state and torsion problems. (Stress function, iteration, strain gages, photoelasticity.) Homogeneous plastic flow, plastic tensile instability.
Mr. Westmann (F,W)

160. Introduction to Biostructural Mechanics. Prerequisite: course 108 or equivalent. An introduction to Biostructural Mechanics of the human musculoskeletal system. Structural characteristics and behavior of skeletal members. Response to mechanical trauma. Elastic and viscoelastic properties of hard and soft tissues. Mathematical modeling. Mr. Roberts (Sp)

161A. Introduction to Astronautics. Prerequisite: course 102. The space-environment of earth, near-earth orbits and trajectories, step rockets and staging, the two-body problem, orbital transfer and rendezvous, elementary perturbation theory, influence of earth's oblatness. Mr. Forster (Sp)

162A. Introduction to Mechanism and Mechanical Systems. (Formerly numbered 178A.) Prerequisite: course 102. The analysis and synthesis of mechanisms and mechanical systems are studied including both kinematics and dynamics aspects. Mechanisms from a wide range of applications including automatic machinery, transportation systems and computer peripheral equipment are introduced.
Mr. Dubowsky (F)

162B. Fundamentals of Mechanical System Design. (Formerly numbered 178B.) Lecture, three hours; laboratory, three hours. Prerequisite: course 102. Techniques of modern design and development of mechanical systems. Application and analysis of basic components and sub-systems such as gear trains, bearings, hydraulic and pneumatic subsystems. The dynamics of high-speed machines. Students will create a design of their choice.
Mr. Dubowsky (W)

162C. Electromechanical Systems Laboratory. Lecture, one hour; laboratory, five hours. Prerequisite: course 162B or consent of the instructor. Laboratory course for students interested in research, design or development of complex mechanical and

electromechanical systems. Student, with consent of instructor, will select a system which he will develop, build and instrument. Behavior of this system is studied in detail. Mr. R.R. Allen (Sp)

163. Dynamics and Control of Physical Systems. Prerequisites: courses 171A and either 155 or 169A; (concurrent enrollments satisfactory). Application of the principles of dynamics and classical control theory to a wide range of physical systems, including simplified models of machines and electromechanical devices, space and ground transportation vehicles, and biomechanical systems. Mathematical modeling and computer simulation are emphasized.
Mr. Dubowsky (W, even years)

164. Engineering System Dynamics. Prerequisites: courses 171A, 169A (either of which may be taken concurrently). Computable models of dynamic systems with interacting mechanical, electrical, hydraulic, and thermodynamic elements: component models; subsystem interactions; system equations in state-variable form; computer simulation. Rigid and flexible body dynamics; transducers; control systems; nonlinear electromechanical devices; machine, vehicle and biological systems.
Mr. R.R. Allen (W, odd years)

165A. Elementary Structural Analysis. Prerequisite: course 108. Equilibrium of structures; deformation analysis of structures by differential equation method, moment-area method and the principle of virtual work; influence lines; analysis of statically determinate and indeterminate structures such as beams, frames, arches and trusses; introduction to slope-deflection equations.
Mr. Dong (F,Sp)

165B. Intermediate Structural Analysis. Prerequisite: course 165A. Classical force, displacement methods of structural analysis; three moment equation, slope deflection equations, moment distribution; virtual work, minimum potential, complementary potential theorems; Castigliano's theorems, generalized displacements, forces; Rayleigh-Ritz method; introduction to matrix methods; stiffness, flexibility matrices for bars, beams. Mr. Dong (F,W)

165C. Computer Analysis of Structures. (Formerly numbered 165N.) Prerequisite: course 165A. Development of algorithms and FORTRAN coding for matrix manipulation, inversion; solution of the linear algebraic equations, eigenvalue problems; structural applications; matrix displacement method for planar trusses, frames, direct assembly of system stiffness; matrix force method for planar frames. Mr. Dong (Sp)

165L. Structural Design and Testing Laboratory. (½ course) Lecture, one hour; laboratory, four hours. Prerequisite: courses 157, 165A. Design, construction, instrumentation, and test of a small scale model of a structure for comparison with theoretically predicted behavior. Mr. Felton (Sp)

166. Elementary Structural Mechanics. Prerequisite: course 108. Analysis of stress, strain; phenomenological material behavior, fatigue, cumulative damage; bending, extension of beams, unsymmetrical sections, stiffened shell structures; torsion of beams, stress function, warping, thin-walled cross-sections; shear stresses; plate analysis; instability, failure of columns, plates, approximate methods, empirical formulas. Mr. Schmit (F,W)

167A. Design of Steel Structures. Lecture, three hours; recitation, three hours. Prerequisite: course 165A. Allowable stress design of tension members, compression members, beams, beam-columns, and tension splices according to AISC specifications for buildings. Mr. Rea, (F)

167B. Design of Reinforced Concrete Structures. Lecture, three hours; recitation, three hours. Prerequisite: course 165A. Design of reinforced concrete buildings. Reinforced concrete beams, columns, and slabs. Working stress and ultimate strength methods of analysis. Determination of loads and design constraints. Introduction to reinforced concrete structural systems. Mr. Selna (W)

167C. Design of Prestressed Concrete Structures. Prerequisite: course 165A. Prestressing and post-tensioning techniques. Properties of concrete and prestressing steels. Loss of prestress. Analysis of sections for flexural stresses and ultimate strength. Design of beams by allowable stress and strength methods. Load balancing design of continuous beams and slabs. Mr. Selna (Sp)

167L. Reinforced Concrete Structural Laboratory. Laboratory, eight hours. Prerequisite: Engineering 167B and consent of the instructor. Experimental verification of strength design methods used for reinforced concrete elements. Full or near-full scale slab, beam, column, and joint specimens tested to failure. Mr. Selna (Sp)

169A. Introduction to Mechanical Vibrations. Prerequisite: Engineering 102, 108; recommended but not required. Engineering 121C. Fundamentals of vibration theory and applications. Free, forced and transient vibration of one and two degrees of freedom systems including damping and nonlinear behavior. Normal modes, coupling and normal coordinates. Elements of vibration and wave propagation in continuous systems.
Mr. Gibson (F,W)

***†169L. Mechanical Vibrations Laboratory. (½ course)** Prerequisite: course 169A, which should be taken concurrently. Calibration of instrumentation for dynamic measurements. Determination of natural frequencies and damping factors from free vibrations. Determination of natural frequencies, mode shapes and damping factors from forced vibrations. Dynamic similitude. Mr. Rea

171A. Introduction to Feedback and Control Systems: Dynamic Systems Control I. Lecture, three hours; lecture/laboratory, one hour. Prerequisite: consent of the instructor. Introduction to feedback principles, control systems and stability. Unified introductory treatment of continuous and discrete-time (digital or sample-data) systems. Control systems modeling applications in engineering and other fields. Emphasis on concepts. Computer-aided problem solving techniques for systems analysis and design.
Mr. DiStefano, Mr. Leondes (F,W)

171C. Dynamic Systems Control II. Prerequisite: either course 171A or 122A is recommended. State-space models of continuous and discrete-time dynamic systems. Linear algebra of systems; vector spaces; geometric concepts; transformations and matrices; canonical forms. Stability. Controllability and observability. State representation of nonlinear systems; linearization. Emphasis on modeling concepts, applications, and computer-aided problem solving. Mr. DiStefano (W,Sp)

173. Engineering Project Management. Prerequisites: background in design and statistics, such as Engineering 106B, 193A or equivalent, with consent of the instructor. Scientific principles and application arts for computer-compatible management in project definition, design, implementation, and evaluation. Quantitative interdisciplinary formulations exemplifying environmental, industrial, business, and administrative challenges with people influences and operational value-goal strategies. Organizational models. Project Manager as a leader. Nottage (W)

174A. Introduction to Elements of Decision Making. Prerequisite: course 193A or equivalent mathematics course. Elements of decision making and the decision process. Decision and utility theory. Formulation of utility functions and objective functions. Subjective probabilities. Bayesian approach to value of information. Risk sharing and group decisions. Methods of eliciting judgements; bias and scoring rules. Mr. Rubinstein (F,W)

176A. Introduction to Optimization Methods for Engineering Design. Prerequisite: course 10C, Mathematics 32A, 32B, 33A, 33B. Introduction to applied optimization as an engineering design tool. Computational algorithms and chemical, civil, electrical, mechanical and structural applications. Methods for solving the general unconstrained and constrained minimization problem. Methods for converting the general inequality constrained problem to a sequence of unconstrained problems.
Mr. Rosenstein, Mr. Schmit (Sp)

***†177A. Engineering Economics I.** Prerequisite: Economics 100 or equivalent or consent of the instructor. A concise analytic development of modern microeconomic and macroeconomic theory with emphasis on a high technology society and the engineering firm.

***†177B. Engineering Economics II.** Prerequisite: courses 106A and 193A or equivalent or consent of the instructor. Supply of and demand for money. Equilibrium in money and bond markets. Financial instruments and institutions. Investment decision-making for engineering enterprise under certainty, risk, and uncertainty. Break-even analysis, goal programming, capital allocation, sensitivity analysis. Financing of engineering projects, public and private.

180A. Environmental Biotechnology. Prerequisite: course 107A or consent of the instructor. Physical, physiological, and psychological aspects of the interaction between man and thermal, atmospheric, radiant, and mechanical agents and energies in the environment. Biological and physical requirements for engineering control of the environment; applications to complex systems. Mr. O'Brien (F)

180B. Machine and Systems Biotechnology. Prerequisite: course 107A or consent of the instructor. Quantitative and qualitative methods for assessing man as a component in engineering design applications. Limits and optima of human psychophysiological capabilities applied to display-control design, decision-making problems, and task definition; problems of man-machine interactions in large-scale systems. Mr. Lyman (W)

***†181A. Air Pollution Control.** Prerequisite: senior standing or consent of the instructor. Quantitative consideration of the air resource and its management. Air quality measurements and standards. Systems for pollution removal. Industrial, commercial and community air pollution problems. Data analyses and interpretations. Lectures, occasional laboratory and field trips. Mr. Perrine

184A. Engineering Hydrology. Prerequisite: senior standing or consent of the instructor; elementary probability recommended. Precipitation, climatology, stream flow analysis, flood frequency analysis, groundwater, snow hydrology, hydrologic simulation. Possible field trips.
Mr. Dracup (F,Sp)

184B. Introduction to Water Resources Engineering. Prerequisite: course 103A or consent of the instructor. Principles of hydraulics, the flow of water in open channels and pressure conduits, reservoirs and dams, hydraulic machinery, hydroelectric power, introduction to system analysis applied to Water Resources Engineering.
Mr. W.G. Yeh (F,W)

184D. Water Quality Control Systems. Prerequisite: upper division standing in engineering or consent of the instructor. Water as a resource; the physical, chemical, and biological bases of pollution and treatment. Potability and chemical aspects of quality control and reclamation; analytical, economic, and performance aspects of process design for prevention and treatment. Field trips.
Mr. Dracup, Mr. Stenstrom (F,Sp)

184E. Water Quality Control Laboratory. Laboratory, eight hours. Prerequisites: course 184D, may be taken concurrently. Chemistry 11A and 11B. Basic laboratory techniques and practice for the characterization and analysis of waters and wastewaters. Selected experiments include measurement of biochemical oxygen demand, suspended solids, dissolved oxygen hardness, and other parameters used in water quality control.
Mr. Stenstrom (F,Sp)

185A. Principles of Soil Mechanics. Prerequisite: Engineering 108; Earth and Space Sciences 1 recommended. Soil as a foundation for structures and as a material of construction. Soil formation, classification, physical and mechanical properties, compac-

NOTE: For key to symbols, see pages 65 and 66

tion, bearing capacity, earth pressures, consolidation and shear strength. Mr. Lade (F,W)

185B. Soil Mechanics—Laboratory Practices. (½ course) Lecture, one hour; laboratory, three hours. Prerequisite: course 185A (may be taken concurrently). Laboratory experiments to be performed by the students to get basic data required for assigned design problems. Soil classification, Atterburg limits, permeability, compaction, shear strength and specific gravity determination. Mr. Tan (Sp)

186A. Elements of Construction. Lecture, two hours; special projects, field trips, four hours. Prerequisite: senior standing in engineering. Anatomy of the industry, bidding and purchasing strategies, contracts, costs and economics, operations research in construction, planning and scheduling, equipment and materials, construction methods, field engineering techniques, observation and engineering analysis of current construction projects in the vicinity. Mr. Duke (Sp)

191A. Laplace Transforms and Applied Complex Variables. Prerequisite: courses 100, 102. Introduction to the Laplace Transformation: application to electrical and mechanical problems, convolution-type integral equations, difference equations and simple boundary value problems in partial differential equations. Complex variable theory, contour integrals, residues; application to transform inversion and partial differential equations. Mr. Forster (W,Sp)

192A. Mathematics of Engineering. Prerequisite: Mathematics 33A, 33B. Application of mathematical methods to problems of interest in engineering. The main topic covered is systems of linear ordinary differential equations. Fourier series, transforms, and nonlinear effects are also discussed as related to the solutions of differential equations.
Mr. Kelly, Mr. Liu, Mr. Pomraning (F,W,Sp)

192B. Mathematics of Engineering. Prerequisite: course 192A or equivalent. Applications of mathematical methods to engineering problems are considered. Eigenvalue problems for continuous systems and the related special functions are studied.
Mr. Kelly, Mr. Liu, Mr. Pomraning (W,Sp)

192C. Mathematics of Engineering. Prerequisite: course 192A or equivalent. Application of mathematics to engineering problems. A survey of the classical partial differential equations, wave, heat, and potential. The formulation of boundary value problems and analytical and numerical methods are studied.
Mr. Kelly, Mr. Liu, Mr. Pomraning (Sp)

193A. Engineering Probabilistics and Stochastics. Prerequisite: junior standing in engineering. Sets and set algebra; sample spaces; combinatorics; absolute and conditional probability; discrete and continuous random variables; probability distribution, increment, and density functions; Chebychev's inequality; Laplace-Fourier transforms; law of large numbers; central limit theorems; discrete and continuous stochastic processes.
Mr. Apostolakis, Mr. Meecham, Mr. Pearl (F,Sp)

193B. Engineering Statistics. Prerequisite: course 193A or equivalent or consent of the instructor. Introductory concepts of statistical decision and estimation. Population parameters, samples, data, statistics. Classical tests of significance and hypotheses. OC-functions and sample sizes. Statistical estimation for one- and two-parameter populations. Bayesian inference, stopping rules. Decision theory, payoffs, losses. Applications.
Mr. Pearl (W)

195A. Computer Aided Circuit Design. Prerequisite: course 110B; also, use of a computer will be required but not taught. Piecewise analysis of large networks. Device modeling. AC, DC and transient analysis of linear and nonlinear networks. Sensitivity and tolerance analysis. Computer-aided circuit optimization.
Mr. McNamee, Mr. Temes (Sp)

196A. Introduction to Topics in Bioengineering. (½ course) Prerequisite: calculus. History, motivation and current directions in bioengineering. Bioinstrumentation and measurement. Biomaterials. Biomechanics. Biosystems. Health services and patient protection. Human factors engineering. Orthotic/prosthetic systems and sensory aids. This course is graded on a passed/not passed basis.
Mr. DiStefano,Mr. Roberts, Mr. Stenstrom (F,Sp)

M196B. Modeling and Simulation of Biological Systems. (Same as Medicine M196B.) Prerequisite: calculus. Introduction to classical and modern systems and modeling and simulation methods for studying biological systems. Includes multicompartmental modeling, multi-exponential curve fitting and simulation laboratory projects. Applications in physiology and medicine. Life science and medical students are encouraged to enroll.
Mr. Campfield, Mr. DiStefano (F,Sp)

199B-199G. Special Studies. (½ to 2 courses) Prerequisite: senior standing and consent of the instructor. Individual investigation of a selected topic, to be arranged with a faculty member. Enrollment request forms are available in Department Offices. Occasional field trips may be arranged. May be repeated for bachelor's degree credit.

199B. Electrical Sciences and Engineering Department. The Staff (F,W,Sp)

199C. Chemical, Nuclear, and Engineering Department. The Staff (F,W,Sp)

199D. Engineering Systems Department. The Staff (F,W,Sp)

199E. Materials Department. The Staff (F,W,Sp)

199F. Mechanics and Structures Department. The Staff (F,W,Sp)

199G. System Science Department. The Staff (F,W,Sp)

COMPUTER SCIENCE

20. Programming and Problem Solving. (Formerly numbered Engineering 20.) Prerequisite: Engineering 10C or consent of the insructor. Open to graduate students on a S/U grade basis only. Solution of numerical and nonnumerical problems of intermediate complexity, using assembly languages and several programming languages. Students will analyze, program, and run half a dozen problems. Emphasis is placed on individual ability to carry out assignments under minimum supervision.
Mr. Mr. Melkanoff, Mr. Uzgalis (F,W,Sp)

30. Introduction to Computer Operating Systems. (Formerly numbered Engineering 30.) Prerequisite: Computer Science 20; open to graduate students on S/U grade basis only. Introductory course on functions and use of modern computer systems. Overview of batch and time-sharing systems. Functional description of assemblers, compilers, linkage editors, loaders. Job control language, overlays, file structures, buffering, protection. Assignments will include problems on the computer.
Ms. Friedman, Mr. Muntz (F,W,Sp)

99. Individual Programming Projects. (½ to 1 course) Prerequisite: Engineering 10C or consent of the instructor. Course intended for students wishing to learn individually new programming languages and students wishing to make up deficiencies so as to bring them to the level of Computer Science 20. Students will design, check-out and run programs in various programming languages.
Mr. Melkanoff (F,W,Sp)

111. Systems Programming. (Formerly numbered Engineering 126C.) Prerequisites: Computer Science courses 30 and 141. Introduction to modern operating systems. Mapping and binding of addresses. The organization of multiprogramming and multiprocessing systems; interrupts, process model, and interlocks. Resource allocation models and the problem of deadlocks. Job control and system management.
Mr. Gerla, Mr. Muntz (W)

M123B. Theoretical Models in Computer Science. (Same as Engineering M123B; formerly numbered Engineering 123B.) Prerequisite: senior standing or consent of the instructor. Sets, strings, and languages. Phrase-structure languages. Finite-state languages and finite-state automata. Context-free languages and pushdown store automata. Unrestricted phrase-structure languages and Turing machines. Context-sensitive languages and linear-bounded automata. Elementary decision problems of automata and languages.
Ms. Friedman, Mr. Parker (F,W,Sp)

M124A. Applied Numerical Computing. (Same as Engineering M124A; formerly numbered Engineering 124A.) Prerequisite: Engineering 10C and Mathematics 32C or equivalents. An introduction to scientific computing and application-oriented survey of computing techniques for several important classes of problems, including matrix computations, root-finding, ordinary differential equations, interpolation and approximation. Student computing exercises.
Mr. Carlyle, Mr. Karplus (F,W,Sp)

131. Programming Languages. (Formerly numbered Engineering 125L.) Prerequisite: Computer Science 20. The main objective is to study, compare and evaluate programming languages, in particular commercially available languages: FORTRAN, ALGOL 60, COBOL, PL/1, and ALGOL 68. Additional topics as instructor sees fit.
Mr. Berry, Mr. Cardenas, Mr. Uzgalis (F,W,Sp)

132. Compiler Construction. (Formerly numbered Engineering 125N.) Prerequisite: Computer Science 131 or consent of instructor. Modern compiler structure. Syntax analysis. Lexical analysis. Semantic analysis and run-time environment. Program and data structure. Code optimization.
Ms. Friedman, Mr. Martin, Mr. Popek (F,W,Sp)

141. Basic Methods of Data Organization. (Formerly numbered Engineering 123A.) Prerequisite: Computer Science 20. Fundamental techniques for organizing and manipulating data, stressing relationships to performance, time/storage tradeoffs. Sequential and linked storage allocation for linear lists, multi-linked structures. Trees: implementation, traversals, mathematical properties. Dynamic storage allocation. Topics from: sorting-searching, algorithmic analysis, graph theory, concepts underlying file management.
Mr. Gerla, Mr. Klinger (F,W,Sp)

151A. Computer System Architecture: I (Introductory). (Formerly numbered Engineering 125A.) Prerequisite: College level Physics (electricity and magnetism); Engineering 10C; Computer Science 152A to be taken concurrently. Introduction to computer architecture. Description of machine organization and operation. Information: its representation and manipulation. Combinational logic design with IC's and MSI devices. Sequential circuits, storage elements and MSI packages. Arithmetic and the arithmetic-logic unit.
Mr. Avizienis, Mr. Bussell, Mr. Ercegovac (F,W,Sp)

151B. Computer System Architecture: II (Intermediate). (Formerly numbered Engineering 125B.) Prerequisite: Computer Science 151A; Computer Science 152B to be taken concurrently. Formal description of machine organization. Effects on machine organization of: instruction sets and formats; addressing structures. Memory organization and management; control sequence generator; I/O processing and interrupts; reliability aspects.
Mr. Bussell, Mr. Ercegovac (F,W,Sp)

152A. Introductory Digital Circuits Laboratory. (½ course) (Formerly numbered Engineering 125Z.) Prerequisite: Engineering 10C; this course is to be taken concurrently with Computer Science 151A. Familiarization with design and interconnection of logic circuits and networks through implementation and debugging procedures, including experience with printed circuit design.
Mr. Bussell, Mr. Rennels (F,W,Sp)

152B. Digital Systems Laboratory. (½ course) (Formerly numbered Engineering 125Y.) Prerequisite: Computer Science 151B to be taken concurrently. A computer based laboratory which probes computer architecture through construction simulation and measurement of digital subsystems.

Mr. Bussell, Mr. Rennels (F,W,Sp)

171. On-Line Computer Systems. (Formerly numbered Engineering 124D.) Prerequisite: senior standing or consent of instructor. A survey of fundamentals with emphasis on hardware and systems concepts. Adapting digital computers to interfaces, including multi-programming, interrupt and time-sharing considerations. Digital communication, remote consoles, sampling, quantizing, multiplexing, analog-digital conversion, and data reconstruction.

Mr. Karplus, Mr. Levine, Mr. Vidal (W,Sp)

172. Simulation and Models. (Formerly numbered Engineering 126A.) Prerequisite: Computer Science 20. Model formulation and programming for discrete event systems in simulation languages (e.g., GPSS, SIMSCRIPT). The simulation data base and considerations for language development. Statistical considerations: design of experiments, random number generation, analysis of model results. Computer exercises.

Mr. Karplus, Mr. McNamee (W)

173. Random Data Analysis and Measurement Procedures. Prerequisite: Engineering 121C. Provides practical aspects of random data analysis and measurement procedures. Includes statistical properties of random data, correlation, spectral density, input/output relationships, statistical errors, coherence functions, data acquisition and processing techniques. Mr. McNamee (F)

174. Elements of Computer Graphics. (Formerly numbered Engineering 124E.) Prerequisite: Computer Science courses 171, 131, 141 or consent of the instructor. Hardware and software elements of computer graphics systems, including problems of intelligent terminals, communications and graphics languages. Application areas and cost effective uses of interactive graphics. Mr. Uzgalis (W)

199. Special Studies. (Formerly numbered Engineering 199A.) Prerequisite: senior standing and the consent of the instructor. Individual investigation of a selected topic, to be arranged with a faculty member in the Computer Science Department. Enrollment request forms available in the Department office. Occasional field trips may be arranged. May be repeated for bachelor's degree credit.

The Staff, Computer Science Dept. (F,W,Sp)

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

ENGLISH

(Department Office, 2225 Rolfe Hall)

Michael J.B. Allen, Ph.D., *Professor of English.*
Calvin Bernard Bedient, Ph.D., *Professor of English.*
Vinton A. Dearing, Ph.D., *Professor of English.*
Robert William Dent, Ph.D., *Professor of English.*
Patrick K. Ford, Ph.D., *Professor of English and Celtic Studies.*
Robert A. Georges, Ph.D., *Professor of English.*
Gerald Jay Goldberg, Ph.D., *Professor of English.*
George Robert Guffey, Ph.D., *Professor of English (Vice-chairman of the Department).*
Charles Bennett Gullans, Ph.D., *Professor of English.*
Paul Alfred Jorgensen, Ph.D., *Professor of English.*
Henry Ansgar Kelly, Ph.D., *Professor of English and of Medieval-Renaissance Studies.*
Jascha Kessler, Ph.D., *Professor of English.*
Robert Starr Kinsman, Ph.D., *Professor of English.*
Murray Krieger, Ph.D., *University Professor of English.*
Richard Alan Lanham, Ph.D., *Professor of English.*
Richard D. Lehan, Ph.D., *Professor of English.*
Blake Reynolds Nevius, Ph.D., *Professor of English.*
Maximillian Erwin Novak, D.Phil., Ph.D., *Professor of English.*
Joseph N. Riddel, Ph.D., *Professor of English.*
Florence Ridley, Ph.D., *Professor of English.*
Alan Henry Roper, Ph.D., *Professor of English.*
George S. Rousseau, Ph.D., *Professor of English and Eighteenth-Century Studies.*
William David Schaefer, Ph.D., *Professor of English.*
Paul Roland Sellin, Ph.D., *Professor of English.*
Paul Douglas Sheats, Ph.D., *Professor of English (Chairman of the Department).*
Georg Bernhard Tennyson, Ph.D., *Professor of English.*
Peter Larsen Thorslev, Jr., Ph.D., *Professor of English.*
Alexander Welsh, Ph.D., *Professor of English.*
D.K. Wilgus, Ph.D., *Professor of English and Anglo-American Folksong.*
Robert Martin Adams, Ph.D., *Emeritus Professor of English.*
Robert Paul Falk, Ph.D., *Emeritus Professor of English.*
John Jenkins Espey, B.Litt., M.A., (Oxon.), *Emeritus Professor of English.*
Charles V. Hartung, Ph.D., *Emeritus Professor of English.*
Leon Howard, Ph.D., L.H.D., *Emeritus Professor of English.*
Claude Jones, Ph.D., *Emeritus Professor of English.*
Alfred Edwin Longueil, Ph.D., *Emeritus Professor of English.*
Ada Blanche Nisbet, Ph.D., *Emeritus Professor of English.*
Franklin Prescott Rolfe, Ph.D., *Emeritus Professor of English.*
Walter Eldon Anderson, Ph.D., *Associate Professor of English.*
Charles Linwood Batten, Jr., Ph.D., *Associate Professor of English.*
Charles Ashton Berst, Ph.D., *Associate Professor of English.*
A. R. Braunmuller, Ph.D., *Associate Professor of English.*
Frederick Lorrain Burwick, Ph.D., *Associate Professor of English.*
Daniel G. Calder, Ph.D., *Associate Professor of English.*
Edward Ignatius Condren, Ph.D., *Associate Professor of English and of Medieval Studies.*
Richard Keith Cross, Ph.D., *Associate Professor of English.*
Ronald E. Freeman, Ph.D., *Associate Professor of English.*
Christopher Waldo Grose, Ph.D., *Associate Professor of English.*
Albert David Hutter, Ph.D., *Associate Professor of English.*
Gordon L. Kipling, Ph.D., *Associate Professor of English.*
G. Jackson Kolb, II, Ph.D., *Associate Professor of English (Vice-Chairman of the Department).*
Kenneth Robert Lincoln, Ph.D., *Associate Professor of English.*
Robert M. Maniquis, Ph.D., *Associate Professor of English.*
Raymund Arthur Paredes, Ph.D., *Associate Professor of English.*
Karen Elizabeth Rowe, Ph.D., *Associate Professor of English.*
Thomas Richard Wortham, Ph.D., *Associate Professor of English.*
Ruth B. Yeazell, Ph.D., *Associate Professor of English.*
Stephen Irwin Yenser, Ph.D., *Associate Professor of English.*
Ruth E. Armentrout, Ph.D., *Assistant Professor of English.*
James Edward Goodwin, Ph.D., *Assistant Professor of English.*
Romey T. Keys, Ph.D., *Assistant Professor of English.*
Joseph F. Nagy, Ph.D., *Assistant Professor of English.*
Barbara Lee Packer, Ph.D., *Assistant Professor of English.*
Jonathan Post, Ph.D., *Assistant Professor of English.*
Karen Elizabeth Rowe, Ph.D., *Assistant Professor of English.*
Donald L. Weber, Ph.D., *Assistant Professor of English.*
Richard Yarborough, Ph.D., *Acting Assistant Professor of English.*

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Jerome Cushman, A.B., B.S.L.S., *Senior Lecturer, Literature for Children and Adolescents.*
Everett L. Jones, M.A., *Senior Lecturer in English.*
David Stuart Rodes, Ph.D., *Lecturer in English.*
Peter Ladefoged, Ph.D., *Professor of Phonetics.*
Robert Paul Stockwell, Ph.D., *Professor of Linguistics.*

English as a Second Language

(Section Office, 3303 Rolfe Hall)

J. Donald Bowen, Ph.D., *Professor of English.*
Russell Norman Campbell, Ph.D., *Professor of English.*
John Frederick Povey, Ph.D., *Professor of English.*
Clifford Holmes Prator, Ph.D., *Emeritus Professor of English.*
Lois McIntosh, Ph.D., *Emeritus Professor of English.*
Marianne Celce-Murcia, Ph.D., *Associate Professor of English.*
Evelyn R. Hatch, Ph.D., *Associate Professor of English (Vice-Chairman of the Department).*
Earl James Rand, Ph.D., *Associate Professor of English.*
John H. Schuman, Ph.D., *Associate Professor of English.*
Frances B. Hinofotis, Ph.D., *Assistant Professor of English.*
John H. Schumann, Ph.D., *Assistant Professor of English.*
Roger W. Anderson, Ph.D., *Visiting Assistant Professor of English.*
S. Robert Greenberg, Ph.D., *Visiting Assistant Professor of English.*
Jose L. Galvan, ABD, *Lecturer in English.*

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Peter Ladefoged, Ph.D., *Professor of Phonetics.*

Admission to Courses in English

Students must have completed the Subject A requirement before taking any courses in English (other than English A or English 1). Reference to Subject A as a prerequisite in the following pages alludes to the Subject A requirement. For regulations concerning Subject A, see index.

Preparation for the Major

Requirements: English 3, 4, 10A, 10B, and 10C taken *in the stated sequence* (each course is a prerequisite for the next course). Completion of English 3 or 4 normally satisfies the College of Letters and Science "D" requirement in English composition. Completion of English 3 *and* 4 satisfies the College of Fine Arts English composition requirement (see under College requirements for details).

Extra-Departmental Requirement for Foreign Literature or Foreign Language Background. All English majors must have completed either (1) the fifth course or its equivalent in any one foreign language or (2) any combination of five courses in foreign language and foreign literature, including Foreign Literature in Translation and Humanities (see Courses of Instruction). These courses may be taken P/NP. High school foreign language courses count toward option 1, but not option 2.

The Major

Requirements: English 141A (Chaucer), 142A and 142B (Shakespeare), 143 (Milton), at least one "Specialized Study" course from the 180 series, and a minimum of seven additional upper division English courses. At least five of the seven courses must be chosen from the series numbered 150-190. At least one of the seven courses must be in literature before 1800 (the 150 series).

All majors are encouraged to choose additional electives from the courses numbered 140 through 190. English 140 (Literary Criticism) is especially recommended for students intending graduate work in literature.

Special Programs

The Department offers special programs in American Studies and General Literature, for both of which the regular "Preparation for the Major" sequence as well as the departmental foreign language requirement apply. Because of the specialized nature of these programs, students planning to do graduate work in English should consult with the departmental adviser before selecting either of these.

American Studies: This program consists of nine upper division courses in English and six related upper division courses taken in other departments. The nine English courses must include 109 (Interdisciplinary Approaches to Literature); two courses chosen from 142A and 142B (Shakespeare) and 143 (Milton); three courses chosen from 170, 171, 172, 173, 174 (the historical sequence in American literature); 175 (Perspectives in the Study of American Culture); and one course pertaining to "American Studies" chosen from the 180 series (Specialized Studies) or the 190 offerings (Literature and Society), taken preferably in the senior year. Of the six upper division courses in other departments, four must be in a selected discipline (history, political science, art, etc.). One of these four courses must deal with the methodology of the discipline, while the other three must explicitly treat American culture. With history as the secondary discipline, for example, students could select from such courses as History 100 (History and Historians)—which would fulfill the methodology requirement—History 176A-176B (Afro-American History), History 177A-177B (Intellectual History of the United States), History 177C (History of Religion in the United States), History 180J-180K (History of American Architecture and Urban Planning), and History 182 (The Immigrant in America). These courses must be chosen in consultation with the English departmental adviser. A complete listing of acceptable courses in the various secondary disciplines may be

NOTE: For key to symbols, see pages 65 and 66

obtained from the Department of English (Rolfe Hall 2225).

General Literature. This program consists of nine upper division courses in English or American literature, and six upper division courses in foreign literatures (at least one of which must be taught in the original language, not a study of works in translation). The nine English courses must include 142A and 142B (Shakespeare); 141A (Chaucer) or 143 (Milton); at least one course from the 150 series, one from the 160 series, and one from the 170 series; and three electives chosen from courses numbered 140 through 190 (students intending graduate work in literature are especially encouraged to take English 140). A listing of acceptable courses arranged into possible emphases under this program may be obtained from the Department of English (Rolfe Hall 2225).

Creative Writing Major

Students in this major must satisfy all requirements listed under "Preparation for the Major" including the foreign language requirement. This major consists of 142A and 142B (Shakespeare), and a minimum of ten additional upper division English courses; three creative writing courses from the 133-135 series, taken in a single genre (poetry, short story, or drama); three literature courses paralleling the creative writing specialization (the following pairings are recommended: 100A and 101B with 133; 100C and 101C with 134; and 100B and 101D with 135); and four electives chosen from courses 140 through 190. Students will be admitted to this program only upon recommendation of their instructor after completing 133A, 134A, or 135A. Students planning on choosing this major are encouraged to take English 20; for further details see the Department of English (Rolfe Hall 2225).

Major for Foreign Students

The Department offers a special major in English open optionally to bona fide foreign students whose first language is other than English. Students in this major must satisfy all requirements listed under "Preparation for the Major"; they may fulfill the departmental foreign language requirement with their own native language. The following 12 courses are required for the major itself: English 103J, 106J, and 109J; two courses in the 100 series, 122K; 142A and 142B; and four additional courses from those numbered 140-199. Students who complete this major and wish to pursue graduate study should consult with the departmental adviser about programs of study and requirements for admission.

Teaching Credential Candidates

Teaching of English. Students wishing to obtain a teaching credential should declare their intention at the beginning of their junior year and seek the advice of the departmental adviser in planning a coherent program. The Department requires either 120A, 120B, or 120C and 130 as part of, or in addition to, the major. Candidates must take one course in drama (100B, 135A-135B-135C, 152, 156, 167) as part of the major; they must also complete 300 before they can be certified to begin student teaching. Candidates are encouraged to choose additional courses in language and in children's literature, literature for adolescents, American literature, and literature for minorities as some of their electives. *Note: students who enter the School of Education seeking a credential to teach English must, before beginning their required practice teaching assignment, be certified by the Department of English as prepared to teach this subject; the Department will not certify any student who has not completed 130, 300, and either 120A, 120B, or 120C.* For additional information on courses leading to the teaching credential, consult the Graduate School of Education (Moore Hall 201) and the Department of English (Rolfe Hall 2225).

The Honors Course in English

Majors with a 3.25 overall grade-point average and a 3.5 grade-point average in English courses are encouraged to enter the honors program in English. Application should be made during the second quarter of the junior year. In addition to maintaining the above grade-point averages, students who expect to graduate with departmental honors are required to take two courses in the 180 series, and one Special Study tutorial (English 199H).

Lower Division Courses

A. Basic Review of English Usage (No credit). Prerequisite: unsatisfactory performance on the Subject A Placement Test. English A displaces 4 units on the student's study list but yields no credit toward a degree. Enrollment in English A is offered only on a P/NP basis and is required of students with low scores on the Subject A Placement Test. Instruction in standard English usage, including practice in sentence and paragraph construction, diction, punctuation, and spelling. Workshop exercises in writing and revision. Completion of this course or demonstration of minimum competence in composition on the Subject A Placement Test is a prerequisite for English 1.

1. Fundamentals of Exposition. (½ course) Prerequisite: English A or qualifying score on Subject A Placement Test. English 1 displaces 4 units on the student's study list but yields only 2 units toward a degree. A course designed to develop the proficiency in expository writing required for successful University work. Lectures, readings, class discussions, and assignments in writing and revision. Successful completion of this course meets the Subject A requirement.

3. English Composition, Rhetoric and Language. (Formerly numbered 1A-1B.) Prerequisite: satisfaction of the Subject A requirement by examination or by completion of English 1 with a grade of "C" or better. Principles and methods of exposition and argumentation, with readings and analysis of passages of prose. Topics vary: special interest sections are set aside in the class schedule for social science, life science, and fine arts students. Other sections concentrate on literature or on rhetoric and stylistics. Minimum of six 3-5 page papers.

4. Critical Reading and Writing. (Formerly numbered 2). Prerequisites: Subject A and English 3 (or its equivalent; see Departmental adviser for details). An introduction to literary analysis, with close reading and carefully written exposition of selections from one or more of the principal modes of literature: poetry, prose fiction, and drama. Minimum of six 3-5 page papers.

10A. English Literature to 1660. Prerequisites: Subject A, English 3, and 4 or 20. A study of selected works of the period, beginning with selections from Old English poetry and including writings by Chaucer, Spenser, Shakespeare, Donne, and Milton. Minimum of three 3-5 page papers or equivalent.

10B. English Literature, 1660-1832. Prerequisites: Subject A, English 3, 4 or 20, and 10A. A study of selected works of the period, including writings by Dryden, Pope, Swift, Wordsworth, and Keats. Minimum of three 3-5 page papers or equivalent.

10C. English Literature, 1832 to the Present. Prerequisites: Subject A, English 3, 4 or 20, 10A, and 10B. A study of selected works of the period, including writings by Tennyson, Arnold, Browning, Yeats, Joyce, and Eliot. Minimum of three 3-5 page papers or equivalent.

20. Introduction to Creative Writing. Prerequisites: Subject A, English 3 (or its equivalent), and submission of samples of creative or expository writing to a screening committee (hence departmental consent). A course designed to introduce the fundamentals of creative writing. Each class will focus either on poetry, fiction, or drama, depending upon the wishes of the instructor(s) during any given quarter. Readings from assigned texts and weekly writing assignments will be required.

70. Major British Authors before 1800. Prerequisite: Subject A. Not open for credit to English majors or students who have taken 10A or 10B. A study of selected masterpieces of English literature before 1800, including the works of such writers as Chaucer, Shakespeare, Donne, Milton, Swift, Pope, Johnson, and Fielding.

75. Major British Authors, 1800 to the Present. Prerequisite: Subject A. Not open for credit to English majors or students who have taken 10B or 10C. A study of selected masterpieces of English literature, 1800 to the present, including the works of such writers as Wordsworth, Coleridge, Keats, Tennyson, Dickens, Browning, Yeats, Joyce, and Eliot.

80. Major American Authors. Prerequisite: Subject A. Not open for credit to English majors or students who have taken any courses in the 170 series. An introduction to the chief American men of letters, with emphasis upon the poetry, nonnarrative prose, and short fiction of such writers as Poe, Emerson, Whitman, Twain, Frost, and Hemingway.

85. The American Novel. Prerequisite: Subect A. Not open for credit to English majors or students who have taken 171, 172, or 174. The development, with emphasis on form, of the American novel from its beginning to the present day. Included are works of such novelists as Hawthorne, James, Fitzgerald, and Faulkner.

90. Shakespeare. Prerequisite: Subject A. Not open for credit to English majors or students who have taken 142A or 142B. A survey of Shakespeare's plays, including comedies, tragedies, and histories, selected to represent Shakespeare's breadth, artistic progress, and total dramatic achievement.

Mr. Guffey, Mr. Rodes, Ms. Rowe

Upper Division Courses

Requirements: See "Admission to Courses in English" for prerequisites for courses 100-123. In addition, English 3 and 4 or 20 are prerequisites for courses 130-135; consent of the instructor following submission of samples of creative work is required for enrollment in courses 133-135. English 3, 4 or 20, 10A, 10B, and 10C, *taken in the stated sequence,* are prerequisites for courses 140-190.

100A. Introduction to Poetry. Prerequisite: Subject A. A study of critical issues (metrics, diction, figurative, language symbolism, irony and ambiguity, form and structure) and aesthetic issues, including evaluative criteria; followed by the close critical analysis of a selection of representative poems. This course is particularly recommended for teaching credential candidates.

Mr. Batten, Ms. Packer

100B. Introduction to Drama. Prerequisite: Subject A. Examination of representative plays: readings may range from Greek to modern drama. Emphasis on critical approaches to the dramatic text; study of issues such as plot construction, characterization, special uses of language in drama, methods of evaluation.

100C. Introduction to Fiction. Prerequisite: Subject A. An introduction to prose narrative, its techniques and forms. Analysis of short and long narratives, and of critical issues such as plot, characterization, setting, narrative voice, realistic and non-realistic forms. Mr. Anderson, Mr. Keys

100D. Introduction of Special Topics and Genres. Prerequisite: Subject A. A study of a particular topic, genre, or sub-genre in literature, such as satire, biography, parody, or a specialized classification of literature. May be repeated for credit. Mr. Tennyson, Mr. Thorslev

101A. Recent British Literature. Prerequisite: Subject A. Recent trends and developments in British fiction and poetry since World War II. Mr. Keys

101B. Recent American Poetry. Prerequisite: Subject A. Recent trends and developments in American poetry since World War II. Mr. Gullans

101C. Recent American Fiction. Prerequisite: Subject A. Recent trends and developments in American fiction since World War II.

Mr. Goldberg, Mr. Weber, Mr. Wortham

101D. Recent American Drama. Prerequisite: Subject A. Recent trends and developments in American drama since World War II.

Mr. Berst, Mr. Goodwin

102. The Short Story in England and America. Prerequisite: Subject A. A historical survey of the short story as a genre from the nineteenth century to the present. Mr. Anderson, Mr. Weber

103. Jewish American Fiction. Prerequisite: Subject A. The study of the fiction of Jewish writers in America such as Bellow, Malamud, and Roth, focusing on the encounter of Jewish ethical ideals and social values with the contemporary environment. Mr. Novak

104. Afro-American Literature and Black Studies. Prerequisite: Subject A. The Black experience as reflected in the development of Black American literature and/or the portrayal of Blacks in relationship to salient cultural and social conditions. The course may explore recurrent and characteristic attitudes, themes, techniques, and genres. Mr. Yarborough

105. The Chicano Experience in Literature. Prerequisite: Subject A. The study of literature in English by and about Chicanos. The course surveys the depiction of the Chicano experience in American literature generally and focuses on the development of Chicano literature itself, its cultural backgrounds, and distinctive uses of language. Mr. Paredes

106. Native American Literary Studies. Prerequisite: Subject A. The study of Native American oral cultures through translated documents (songpoems, life-stories, myths, tales, dream visions, speeches) and/or the images in writing about Native Americans (poetry, fiction, history, anthropology, sociology). Mr. Lincoln

M107. Women in Literature. (Same as Women's Studies M107.) Prerequisite: Subject A. A survey of literary works by and about women; the course examines the delineation of women in English and American literature, studies in historical and contemporary themes, and the evolution of forms and techniques in poetry, fiction, and biography. Ms. Rowe, Ms. Yeazell

108A-108B. The English Bible as Literature. Prerequisite: Subject A. The principal literary monuments of the Old and New Testaments in the King James Version. English 108A deals with the Old Testament; 108B with the New Testament. Mr. Dearing

109. Interdisciplinary Approaches to Literature. Prerequisite: Subject A. The study of British or American literature in relation to other disciplines, such as history, politics, philosophy, psychology. May be repeated for credit. Mr. Condren, Mr. Hutter

110. Studies in Individual Authors. Prerequisite: Subject A. The specialized study of the work of a single poet, dramatist, prose writer, or novelist. May be repeated for credit.

M111A. The Literature of Myth and Oral Tradition. (Same as Folklore M111.) Prerequisite: Subject A. A study of myth, dramatic origins, oral epic, folktale, and ballad, emphasizing Indo-European and Semitic examples. Mr. Nagy

M111B. Anglo-American Folk Song. (Same as Folklore M106.) Prerequisites: Subject A, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. Mr. Wilgus

M111C. British Folklore and Mythology. (Same as Folklore M121.) Prerequisites: Subject A, junior standing. A survey of the folklore of the peoples of Britain, with attention to their history, function, and regional differences. Mr. Georges, Mr. Nagy

M111D. Celtic Mythology. (Same as Folklore M122.) Prerequisite: Folklore 101 or permission of the instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales. Mr. Ford

M111E. Survey of Medieval Celtic Literature. (Same as Folklore M112.) Prerequisite: Subject A. A general course dealing with Celtic literature from the earliest times to the fourteenth century. No knowledge of Irish or Welsh is required. Mr. Ford

M111F. Celtic Folklore. Prerequisite: Folklore 101 or permission of the instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic countries, with attention to current techniques of folkloristic research. Mr. Nagy

112. Children's Literature. Prerequisite: Subject A. A study of the historical backgrounds and development of types of children's literature, folklore and oral tradition, levels of interest, criticism and evaluation, illustration and bibliography. Mr. Cushman

113. Literature for Adolescents and Young Adults. Prerequisite: Subject A. This course will analyze and evaluate the literature intended mainly for students in junior and senior high schools. It will also review mature books that are popularly suggested for this age group, and study the interests and reading habits of young adults. Mr. Cushman

114. World Literatures in English. Prerequisites: Subject A, consent of the instructor. A survey of contemporary literature from English speaking regions of the world, reviewing the major genres from several countries and making cross-comparisons with the literatures. Generalizations concerning the nature of the English used by such writers will be examined. May be repeated for credit. Mr. Povey

115. American Popular Literature. Prerequisite: Subject A. A study of the main currents of popular and cultural taste as reflected in such genres as dime novels, detective fiction, and Western stories. Mr. Nagy, Mr. Paredes

116. Science Fiction. Prerequisite: Subject A. A study of science fiction and speculative literatures. Mr. Guffey

117. Detective Fiction. Prerequisite: Subject A. A study of British and American detective fiction and the literature of detection. Mr. Hutter

118. Film and Literature. Prerequisite: Subject A. A study of the interdisciplinary relationships between film and literature, including theme and structure, and focusing on cinematic adaptations of literary works. Mr. Goodwin

120A. Language Study for Teachers: Elementary School. Prerequisite: Subject A. A survey of topics in English linguistics of special interest to elementary school teachers. Subjects include: approaches to English grammar; language acquisition and development; language attitudes; regional and social dialects of American English; bilingual schooling; contribution of English language study to the teaching of reading, writing, spelling, and literature.

120B. Language Study for Teachers of English: Secondary and Post-Secondary. Prerequisite: Subject A. A rapid review of English grammar and an introduction to basic concepts in socio-linguistics, dialectology, and stylistics, applied to the analysis and evaluation of writing samples from students in junior and senior high school and junior college.

120C. Language Study for Teachers of Subjects Other Than English: Secondary and Post-Secondary. Prerequisite: Subject A. A course designed to introduce teachers of subjects other than English to basic concepts in language acquisition, dialectology, socio-linguistics, and composition.

121. The History of the English Language. Prerequisite: Subject A. A study directed toward English majors of the main features in the grammatical, lexical, and phonetic condition of the English language from Indo-European up to the present time. Mr. Calder, Mr. Condren

122. Introduction to the Structure of Present-Day English. Prerequisite: Subject A. An introduction to the techniques of linguistic description as applied to the pronunciation, grammar, and vocabulary of modern English. Ms. Armentrout

123. Afro-American English. Prerequisites: Subject A and English 120A, 120B, 120C or Linguistics 100; pre- or co-requisite: English 122 or equivalent. A detailed study, involving the analysis of tapes and documents, of the characteristics of urban Afro-American speech and writing.

130. Composition for Teachers. Prerequisites: Subject A, English 3, and 4 or 20. Preparation for future teachers of English composition in the writing and criticism of the kinds of prose discourse usually taught in primary and secondary schools and in junior college.

131. Exposition. Prerequisites: Subject A, English 3, and 4 or 20. Further work in expository composition, designed especially to meet the needs of upper-division students, including transfer students, who desire training beyond that offered in freshman composition courses. Mr. Kipling

131H. Advanced Exposition. Prerequisites: Subject A, English 3, and consent of instructor, following submission of samples of expository prose. An advanced version of English 131 for students who wish to refine and polish their expository skills. Writing assignments will focus upon the expository essays required in upper-division literature courses. Mr. Batten, Mr. Kipling

133A-133B-133C. Creative Writing: Poetry. Prerequisites: Subject A, English 3, 4 or 20, and consent of instructor, following submission of samples of writing. Weekly exercises in the writing of poetry, with practice in the standard forms and metres and the study of techniques. Classroom discussion based upon student work. Mr. Gullans, Mr. Kessler, Mr. Yenser

134A-134B-134C. Creative Writing: Short Story. Prerequisites: Subject A, English 3, 4 or 20, and consent of instructor, following submission of samples of writing. The completion of three stories of average length during each quarter. Some of these may, with the instructor's permission and the student's wish, be a substantial revision of the other stories presented. Classroom discussion based upon student stories. Mr. Goldberg, Mr. Kessler

135A-135B-135C. Creative Writing: Drama. Prerequisites: Subject A, English 3, 4 or 20, and consent of the instructor, following submission of samples of writing. An exploration of the capacity of each student to write for the theater. Class discussion of student writing, individual conferences, rehearsed readings and laboratory productions. Mr. Kessler, Mr. Rodes

136A-136B-136C. Practical Writing and Editing. Prerequisites: Subject A, consent of instructor. A sequence in practical writing and editing ability specifically designed to prepare students for a career. Analysis of prose and literary styles necessary to the variety of writing in professional, non-academic fields will be combined whenever possible with practical experience in a variety of writing internships, and training in a wide range of editorial skills. The Staff

140. Criticism. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An introduction to some types of literary criticism. The student will study such matters as reader's response and rationales of literary description, analysis, and evaluation. He will read literary works in the context of both practical and theoretical criticism. Mr. Anderson, Mr. Kolb

141A. Chaucer: The Canterbury Tales. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. Introductory study of Chaucer's language, versification, and historical and literary background, including analysis and discussion of his long major poem, The Canterbury Tales. Mr. Calder, Mr. Condren, Ms. Ridley

141B. Chaucer: Troilus and Criseyde and Selected Minor Works. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, 10C, and 141A. Intensive study of *Troilus and Criseyde* and selected minor works of Chaucer, such as *The Book of the Duchess, The House of Fame, The Parliament of Fowls*, etc. Mr. Condren, Mr. Kelly, Ms. Ridley

142A. Shakespeare: The Poems and Early Plays. Prerequisites: Subject A, English 3, 4 or 20, 10A,

NOTE: For key to symbols, see pages 65 and 66

10B, and 10C. An intensive study of selected poems and representative comedies, histories, and tragedies through *Hamlet*.
Mr. Allen, Mr. Dent, Mr. Jorgensen

142B. Shakespeare: The Later Plays. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, 10C, and 142A. An intensive study of representative problem plays, major tragedies, Roman plays, and romances.
Mr. Braunmuller, Mr. Hutter, Mr. Kipling

142C. Shakespeare: Selected Topics. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, 10C, 142A, and 142B. This course is designed for students interested in further study of Shakespeare. Limits of investigation will be set by the individual instructor. Mr. Allen, Mr. Rodes

143. Milton. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the major works of Milton with emphasis on *Paradise Lost*.
Mr. Grose, Mr. Guffey, Ms. Rowe

150. Later Medieval Literature. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. Reading and historical explication of the major writers of the fourteenth and fifteenth centuries; e.g. the Gawain-poet, Langland, Gower, Malory, miracle and morality plays, prose, lyrics, and the minor poems of Chaucer. The more difficult texts will be read in modernized form.
Mr. Condren, Mr. Kinsman, Mr. Kipling

151. Elizabethan Literature. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of English literature of the sixteenth century, with special emphasis on the development and interrelationships of poetry, prose, fiction, and literary theory and criticism during the reign of Elizabeth I.
Mr. Dent, Mr. Kipling

152. The Drama to 1642. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the English drama, excluding Shakespeare, from its beginning to the closing of the theaters, with special emphasis on plays of the Elizabethan and Jacobean periods. Mr. Braunmuller, Mr. Dent

153. Literature of the Early Seventeenth Century (1600-1660). Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the major works as literary documents and as products of seventeenth-century thought. The work of Milton is excluded. Mr. Grose, Mr. Guffey, Mr. Sellin

154. Literature of the Restoration and Earlier Eighteenth Century (1660-1730). Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of major works as literary documents and as products of Restoration and earlier eighteenth-century thought. Mr. Batten, Mr. Roper, Mr. Rousseau

155. Literature of the Later Eighteenth Century (1730-1798). Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of major works as literary documents and as products of later eighteenth century thought.
Mr. Batten, Mr. Roper, Mr. Rousseau

156. The Drama, 1660-1842. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the English drama from the Restoration to the Licensing Act.
Mr. Batten, Mr. Novak, Mr. Rodes

157. The Novel to 1832. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the works of the major English novelists from Defoe through Scott.
Mr. Lehan, Mr. Novak, Mr. Rousseau

160. Earlier Romantic Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An intensive study of the poetry and prose of Blake, Wordsworth, and Coleridge, with collateral readings from such authors as Godwin, Burke, Paine, Burns, Southey, Lamb, DeQuincey, and Scott. Mr. Maniquis, Mr. Sheats

161. Later Romantic Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An intensive study of the poetry and prose of Keats, Shelley, and Byron, with collateral readings from such authors as Hazlitt, Hunt, Landor, Clare, Moore, and Peacock.
Mr. Burwick, Mr. Maniquis, Mr. Thorslev

162. Earlier Victorian Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the poetry and prose of the Victorian age from the passage of the first Reform Bill through the high Victorian period, including such authors as Tennyson, Browning, Arnold, Carlyle, Mill, and Newman.
Mr. Freeman, Mr. Kolb, Mr. Tennyson

163. Later Victorian Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the poetry and prose of the later Victorian age from Pre-Raphaelitism through the Aesthetic and Decadent Movements, along with other intellectual trends, including such authors as Ruskin, Swinburne, Pater, Hopkins, Hardy, Wilde, and Yeats.
Mr. Freeman, Mr. Kolb, Mr. Tennyson

164. The Novel, 1832-1900. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the major English novelists from Dickens through Hardy. Mr. Anderson, Mr. Keys, Ms. Yeazell

165. Twentieth-Century British Poetry and Prose. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A study of the dominant trends of twentieth century poetry and prose, with emphasis on experimental work in short fiction, poetry, and the contemporary critical sensibility.
Mr. Bedient, Mr. Keys, Mr. Lincoln

166. The Novel, 1900 to the Present. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A survey of the major English novelists from Conrad to the present.
Mr. Keys, Mr. Lehan, Mr. Lincoln

167. The Drama, 1842 to the Present. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C (for Theater Arts majors, the prerequisite of courses 10A, 10B, and 10C is waived). A survey of British and American drama with its principal continental influences.
Mr. Berst, Mr. Braunmuller, Mr. Goodwin

170. American Literature to 1800. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A historical survey of American literature through the Colonial and Early National periods.
Mr. Weber

171. American Literature, 1801-1865. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A historical survey of American literature, including fiction, from the beginning of the nineteenth century to the end of the Civil War.
Mr. Hirst, Ms. Packer, Mr. Weber

172. American Literature, 1866-1912. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. A historical survey of American literature from Whitman to the founding of *Poetry* magazine.
Mr. Hirst, Mr. Nevius, Mr. Wortham

173. Twentieth-Century American Poetry. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. The development of American poetry since 1912, including the works of Frost, Eliot, Pound, and Stevens.
Mr. Bedient, Mr. Riddel, Mr. Yenser

174. Twentieth-Century American Fiction. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. The development of the American novel and short story since 1912, including the works of Hemingway, Fitzgerald, and Faulkner.
Mr. Goodwin, Mr. Paredes, Mr. Wortham

175. Perspectives in the Study of American Culture. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. An interdisciplinary study of American literature in its relationships to other disciplines, including art, architecture, film, history, music, politics, and various social sciences. It will concentrate upon the application of literary methodology to a historical survey of American culture.
Mr. Goodwin, Mr. Paredes, Mr. Weber

Specialized Studies

These courses (180 through 189) are designed to permit a small number of students (normal limit: 15) to engage in concentrated study in an area in which they have a particular interest, and in which they have taken adequate upper division background courses. *Prerequisites:* Subject A, English 3, 4, 10A, 10B, and 10C. For the author, period, genre, or subject to be studied, see the Schedule of Classes for any given quarter. Enrollment for specialized studies courses is handled through the Department of English (Rolfe Hall 2225) at the time of preenrollment in the quarter *preceding* that in which the course is offered. For further details, see the Departmental adviser. Specialized studies courses may be repeated for credit.

180. Specialized Studies in Medieval Literature.

181. Specialized Studies in Renaissance Literature.

182. Specialized Studies in Seventeenth-Century Literature.

183. Specialized Studies in Eighteenth-Century Literature.

184. Specialized Studies in Romantic Literature.

185. Specialized Studies in Victorian Literature.

186. Specialized Studies in Twentieth Century British Literature.

187. Specialized Studies in Colonial American Literature.

188. Specialized Studies in Nineteenth Century American Literature.

189. Specialized Studies in Twentieth Century American Literature.

190. Literature and Society. Prerequisites: Subject A, English 3, 4 or 20, 10A, 10B, and 10C. The intensive study of some aspect of the relationship between literature and social, economic, or political history. May be repeated for credit.

199. Special Studies in English (½ to 1 course). Prerequisite: consent of instructor. An intensive directed research project. To enroll or obtain information, see Departmental adviser.

199H. Honors Tutorial. Prerequisite: consent of instructor. A tutorial course for students enrolled in the Honor Program in English. Each student will be expected to complete a substantial critical or research paper for credit in the course.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

English as a Second Language

Undergraduate Courses

Courses 33A-33B-33C, 34, 36, 103J, 106J, and 109J are only for students whose first language was other than English. Courses 33A-33B-33C are not open to those who have received a satisfactory grade in English 1 at the University of California. Permission to enroll in these three courses is given on the basis of the Entrance Examination in English as a Second Language which students whose mother tongue is not English must take instead of the Subject A examination (see Subject A in this bulletin). Depending on the result of this examination, entering students are: (1) exempted from any special English requirement; (2) required to take course 33C; (3) required to take course 33B followed by course 33C; (4) required to take course 33A followed by courses 33B and 33C; or (5) required to spend a quarter studying elementary English exclusively.

Lower Division Courses

33A. Intermediate English as a Second Language. Meets ten hours weekly. Intensive drill in pronunciation, structural patterns, vocabulary, conversation, and composition. Each day one hour is devoted to class lectures, demonstrations, etc. and one to supervised study. The Staff

33B. Intermediate English as a Second Language. Prerequisites: course 33A or proficiency demonstrated by Entrance Examination in English as a Second Language. Meets five hours weekly. Emphasizes reading comprehension, vocabulary development and writng effective paragraphs. The Staff

33C. Intermediate English as a Second Language. Prerequisites: course 33B or proficiency demonstrated by Entrance Examination in English as a Second Language. Meets five hours weekly. Emphasizes composition skills and reading unsimplified academic materials. The Staff

34. Oral Communication Skills for Foreign Students. Prerequisite: exemption on the English as a Second Language Placement Examination or successful completion of English 33C, plus the consent of the instructor. English 34 will develop oral language skills that will prepare non-native speakers of English to participate in class discussions, make oral presentations (lectures, debates, thesis defense, etc.) before an audience and respond to questions, and continue to improve through self-evaluation of speech. Ms. Hinofotis

36. Intermediate Composition for Foreign Students. Prerequisites: successful completion of English 33C or by examination. A course designed to improve English language writing skills for non-native speakers of English. Especial attention is given to grammatical structures, principles and methods of exposition and writing for academic purposes. The Staff

ENVIRONMENTAL SCIENCE AND ENGINEERING (INTERDEPARTMENTAL)

(Office: 3677 Geology Building)

Undergraduate Program

Although no undergraduate major is offered encompassing the broad area of environmental science and engineering, studies which readily lead to advanced work or employment in these fields can be arranged along several routes. Students with majors in the natural sciences, ecosystems/geography, public health, or engineering, who have environmental or energy problem-solving as a professional goal, may wish to supplement their course preparation in consultation with the faculty of the Environmental Science and Engineering Program. In preparation for graduate study, attention should be given to requirements for the doctoral program in Environmental Science and Engineering.

Please refer to the Graduate Catalog.

ETHNIC ARTS (INTERDEPARTMENTAL)

(Coordinator's Office, 205 Women's Gym)

Committee in Charge. Philip Newman, Anthropology; ___ Art; Elsie Dunin, Dance; Judy Susilo, Dance; D. K. Wilgus, Folklore and Mythology; James Porter, Folklore and Mythology; Marie Louise Göllner, Music; William Hutchinson, Music; J.H.K.Nketia, Music; David Draper, Music; Mel Helstien, Theater Arts; Beverly Robinson, Theater Arts; Allegra Fuller Snyder, Dance, (Coordinator).

The major provides a program of interdisciplinary studies designed to facilitate the cultural and cross-cultural investigation of man's artistic expression. The flexibility of the program allows the student to focus on a particular medium of expressive behavior after having been exposed to general problems and perspectives in the study of art forms of peoples throughout the world.

The major includes: a core of seven courses from Anthropology, Art, Dance, Folklore and Mythology, Music, and Theater Arts; a concentration consisting of nine courses in one of the disciplines; a senior colloquium; and three upper division elective courses.

Foreign Language Requirement: At least three quarters in one foreign language at the college level are required of all students. All courses in foreign language, except foreign literature in English translation, may be applied to this requirement.

Students who plan to take the "concentration" in music are advised to select French, German, or Italian.

General College Requirements: The student will satisfy the general college requirements (other than foreign language) of his college (Fine Arts or Letters and Science) regardless of the department in which his concentration is located.

Students who wish to see a counselor regarding program planning and major requirements should see Wendy Urfrig, 205 Women's Gym.

Requirements for the Bachelor of Arts Degree

1. A core of seven interdepartmental courses: Dance 70, 46A-46B, Folklore 101, Music 5A-5B-5C, Theater Arts 102E, Anthropology 5A, and either Art 55 or Art 56.

2. A concentration of nine courses in one of the following areas: (The student will declare a "concentration" by the beginning of the Junior year.)

Anthropology: 5C, 143, 144, 150A, and any five upper division anthropology courses from group one through eight and including one area course from group one.

Art: one course from 50, 51, 52, 53, 54, 55, 56; eight courses from 102, 103A-103B-103C- 103D-103E,114A-114B-114C-114D, 115A-115B-115C, 117A-117B-117C, 118A-118B-118C-118D, 119A-119B.

Dance: 38B, 47A-47B-47C, 151A-151B; two courses from 140A-140B-140C; one course from 142, 143, 144, 145, 146; and three courses from 171A-171P, (including one course each from western and non-western cultures).

Folklore and Mythology: one course from M111, 118, M180; two courses from M106, M123B, 124, M181, Classics 161, 168; six courses from 108, M112, M121, M122, M123A, M125, M126, M127, M128, M129, 130, 131, M149, M150, 190, German 134.

Music: 17A-17B-17C, 26A-26B-26C, 140A-140B-140C.

Theater Arts: five courses from 20, 118, 120, 140A-140B, 141A-141B, 142A-142B, 160A, 170; four courses from 5A-5B-5C, 102A, 103A-103B, 104A-104B, 106C, 110A-110B, 117 (must be taken twice), 119, Classics 142; English 90, 104, 167; Scandinavian 144, 145; Humanities 111.

3. **Ethnic Arts 190A-190B.** Senior Colloquim. Prerequisite: restricted to senior standing, Ethnic Arts major. Studies of a comparative and integrative nature in the ethnic arts.

4. Three elective courses which may be chosen from the list below. Other courses might also be appropriate. In order to meet degree requirements the electives must be related to the major and approved by the concentration advisor. The three courses chosen to meet this requirement must be upper division courses and from three different areas outside the area of concentration.

Upper Division Electives

Anthropology 143. The Individual in Culture.

144. Aesthetic Anthropology.

150A-150B. Social Anthropology.

178A-178B-178C. Museum Studies.

179. Ethnography on Film.

Any upper division Anthropology course

Art 101A-101B-101C. Egyptian Art and Archaeology.

102. Art of the Ancient Near East.

103A. Greek Art.

103B. Hellenistic Art.

103C. Roman Art.

103D. Etruscan Art.

103E. Late Roman Art.

104B-104C-104D. Architecture and the Minor Arts of Islam in the Middle Ages.

114A. The Early Art of India.

114B. Chinese Art.

114C. Japanese Art.

114D. The Later Art of India.

115A. Advanced Indian Art.

115B. Advanced Chinese Art.

115C. Advanced Japanese Art.

117A-117B-117C. Advanced Studies in Pre-Columbian Art.

118A. The Arts of Oceania.

118B. The Arts of Pre-Columbian America.

118C. The Arts of Sub-Saharan Africa.

118D. The Arts of Native North America.

119A. Advanced Studies in African Art: The Western Sudan.

119B. Advanced Studies in African Art: The Guinea Coast.

Classics 161. Introduction to Classical Mythology.

168. Introduction to Comparative Mythology.

Dance 111A-111B-111C. Analysis of Human Movement.

128. Dance as Culture in Education.

140A-140B-140C. Dance Cultures of the World.

142. Dance in the Balkans.

143. Dance in India.

144. Dance in Indonesia.

145. Dance in Japan.

146. Dance in Latin America.

151A. History of Dance in Western Culture, Origins to 1600.

151B. History of Dance in Western Culture, Early Baroque to the Present.

158A-158B. Philosophical Bases and Trends in Dance.

159. Advanced Dance Notation.

171A-171P. Performance Courses in Ethnic Dance: A-Bali; B-Ghana; E-India; F-Israel; G-Japan; H-Java; J-Mexico; L-Scotland; M-Spain; P-Yugoslavia.

English 104. Afro-American Literature and Black Studies.

Folklore and Mythology M106. Anglo-American Folksong. (English M111B.)

108. Afro-American Folklore and Culture.

M111. Literature of Myth and Oral Tradition. (English M111A.)

M112. Survey of Medieval Celtic Literature.

118. Folk Art and Technology.

M121. British Folklore and Mythology. (English M111C.)

M122. Celtic Folklore and Mythology. (English M111D.)

M123A. Introduction to Finnish Folklore and Mythology. (Scandinavian Languages M123A.)

M123B. Finnish Folksong and Ballad. (Scandinavian Languages M123B.)

124. Finnish Folk Art and Technology.

M125. Folklore and Mythology of the Lapps. (Scandinavian Languages M125.)

M126. Baltic and Slavic Folklore and Mythology. (Slavic Languages M179.)

NOTE: For key to symbols, see pages 65 and 66

M127. Celtic Folklore.

M128. Introduction to Hungarian Folklore and Mythology. (Hungarian M135.)

M129. Folklore and Mythology of the Ugric Peoples. (Hungarian M136.)

130. North American Indian Folklore and Mythology Studies.

131. Folklore of India.

M149. Folk Literature of the Hispanic World. (Spanish M149.)

M150. Russian Folk Literature. (Russian M150.)

M154A-154B. The Afro-American Musical Heritage. (Music 154A-154B.)

M180. Transcription, Analysis, and Classification of Folk Music. (Music M180.)

M181. Folk Music of Central and Western Europe. (Music M181.)

190. Selected topics in Folklore and Mythology Studies.

199. Special Studies in Folklore.

German 134. German Folklore.

Kinesiology 145. Analysis of Expressive Movement.

Music 108. Acoustics.

130. Music of the United States.

131A-131B. Music of Hispanic America.

132A-132B. Development of Jazz.

135A-135B-135C. History of Opera.

137A-137B. Political Influence on Music.

138. Aesthetics of Music.

139. History and Literature of Church Music.

140A-140B-140C. Musical Cultures of the World.

141. Survey of Music in Japan

142A-142B. Music of the Balkans.

143A-143B. Music of Africa.

144. American Folk and Popular Music.

145. History of Chinese Opera.

146A-146B-146C. Studies in Chinese Instrumental Music.

147A-147B. Music of China.

148. Folk Music of South Asia.

149. The Anthropology of Music.

152. Survey of Indian Music.

153A-153B-153C. Music of the American Indian.

M154A-154B. The Afro-American Musical Heritage.

157. Music of Brazil.

158. New Orleans Jazz.

M180. Transcription, Analysis, and Classification of Folk Music.

M181. Folk Music of Central and Western Europe.

187. Problems in Musical Aesthetics.

Spanish 151. Folk Song in Spain and Spanish America.

Theater Arts 102A-102B. History of European Theater.

103A-103B. Black Peoples Theater in America.

104A-104B. History of the American Theater.

106C. History of African, Asian and Latin American Film.

110A-110B. History of Television and Radio.

117. The Puppet Theater. (½ course.)

118A. Creative Dramatics.

119. Theater for the Child Audience.

120. Intermediate Acting for the Stage.

122. Makeup for the Stage. (½ course.)

140A. Scenic Techniques for the Stage.

140B. Advanced Scenery for the Stage.

141A. Lighting Techniques for the Stage.

141B. Advanced Lighting for the Stage.

142A. Theater Costuming Techniques.

142B. Advanced Costuming for the Stage.

143A. Scenic Design for the Theater.

143B. Advanced Scenic Design for the Theater.

144A. Theater Sound Techniques.

144B. Advanced Theater Sound.

146B. Scene Painting Techniques. (½ course.)

149A. Basic Drafting Techniques for the Stage. (½ course.)

160A. Fundamentals of Play Direction.

190A. The Role of Management in Theater. (½ course.)

FOLKLORE AND MYTHOLOGY (INTERDEPARTMENTAL)

(Department Office, 1041 Graduate School of Management)

Although no undergraduate degree program is offered in folklore and mythology, those majoring in the Ethnic Arts Interdisciplinary Studies program may select folklore and mythology as their area of concentration. A variety of undergraduate courses, offered by departments or by faculty participating in the interdepartmental program is also available to all university students. Those with undergraduate preparation in folklore and mythology studies may continue their work on the graduate level. For planning course work, students should consult departmental advisers and the Chairman of the Committee which administers the interdepartmental program.

For information on graduate programs, please consult the Graduate Catalog.

Lower Division Course

15. Introduction to American Folklore Studies. Lecture and discussion. A cultural-historical survey of the role of folklore in the development of American civilization and of the influence of the American experience in shaping folklore in American society; attention will also be given to representative areas of inquiry and analytical procedures. Mr. Jones, Mr. Wilgus

Upper Division Courses

101. Introduction to Folklore. Prerequisite: junior standing. A survey of the various forms of folklore and an examination of their historical and social significance. The Staff

M106. Anglo-American Folk Song. (Same as English M111B.) Prerequisite: Subject A, junior standing. A survey of Anglo-American balladry and folk song, with attention to historical development, ethnic background, and poetic and musical values. Mr. Wilgus

108. Afro-American Folklore and Culture. Prerequisites: Folklore 101 or consent of instructor. A study of the traditional genres or forms of Afro-American folklore and their cultural functions. Ms. Robinson

M111. The Literature of Myth and Oral Tradition. (Same as English M111A.) Prerequisite: Subject A. A study of myth, dramatic origins, oral epic, folktale, and ballad, including Indo-European and Semitic examples. Mr. Nagy, Mr. Wilgus

M112. Survey of Medieval Celtic Literature. (Same as English M111E.) Prerequisite: Subject A. A general course dealing with Celtic literature from the earliest times to the fourteenth century. No knowledge of Irish or Welsh is required. Mr. Ford

118. Folk Art and Technology. Prerequisite: junior standing. A general course concerned with the material manifestations of folk culture and the theoretical concepts and methodologies utilized in their analysis. Mr. Jones

M121. British Folklore and Mythology. (Same as English M111C.) Prerequisite: Subject A, junior standing. A survey of the folklore of the people of Britain, with attention to their history, function, and regional differences. Mr. Nagy, Mr. Porter

M122. Celtic Mythology. (Same as English M111D.) Prerequisite: Folklore 101 or permission of the instructor. A survey of the early materials, chiefly literary, for the study of the mythic traditions of the Celtic peoples, ranging from ancient Gaul to medieval Ireland and Wales. Mr. Ford

M123A. Finnish Folklore and Mythology. (Same as Scandinavian Languages M123A.) The methods and results of Finnish folklore studies and the mythic traditions of the Finns. Special attention is paid to the oral epic, beliefs and legends. Ms. Rank

M123B. Finnish Folksong and Ballad. (Same as Scandinavian Languages M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folksong, with attention to historical development, ethnic background, and poetic and musical values. Ms. Rank

124. Finnish Folk Art and Technology. Material manifestations of Finnish folk culture: village layout and architecture, folk technology, arts and crafts, textiles, costumes and design. Ms. Rank

M125. Folklore and Mythology of the Lapps. (Same as Scandinavian Languages M125.) Survey of Lappish beliefs, customs, and various genres of oral tradition including tales, legends, songs and music. Attention is also paid to the material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology. Ms. Rank

M126. Baltic and Slavic Folklore and Mythology. (Same as Slavic Languages M179.) A general course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. Ms. Gimbutas

M127. Celtic Folklore. (Same as English M111F.) Prerequisite: Folklore 101 or permission of the instructor. The folkloric traditions of modern Ireland, Scotland, and other Celtic Countries, with attention to current techniques of folkloristic research. Mr. Nagy

M128. Hungarian Folklore and Mythology. (Same as Hungarian M135.) A general course for the student in folklore and mythology, with emphasis on types of folklore and varieties of folklore research. Ms. Birnbaum

M129. Folklore and Mythology of the Ugric Peoples. (Same as Hungarian M136.) Survey of the traditions of the smaller Ugric nationalities (Voguls, Ostyaks). Ms. Birnbaum

130. North American Indian Folklore and Mythology Studies. Prerequisite: course 101 or consent of the instructor. An examination of folkloristic and mythological data recorded from various North American Indian peoples within the contexts of the principal ideological frameworks which have been evolved historically for the analysis of such data. Mr. Georges

131. Folklore of India. Prerequisite: Course 101 or permission of the instructor. A survey of the folklore of India, with special reference to the content and dissemination of oral epics, ballads, legends, and beliefs. Mr. Jairazbhoy

M140. From Boccaccio to Basile (in English). (Same as Italian M140.) A study of the origins and the development of the Italian novella in its themes, in its structure, in its historical context, and in its European ramifications. The course is designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. It is also intended for students majoring in Folklore and Mythology, who

will be given an insight into Italian popular tales when these (as in the case of Boccaccio) were translated into highly sophisticated literary forms, as well as when (as in the case of Basile) they become embedded into the folk tradition of the Western world. Ms. Cottino–Jones

M149. Folk Literature of the Hispanic World. (Same as Spanish M149.) A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries. Ms. Arora, Mr. Robe

M150. Russian Folk Literature. (Same as Russian M150.) Four hours weekly. Lectures and readings in Russian.

M154A-154B. The Afro-American Musical Heritage. (Same as Music M154A-154B.) Prerequisite: Music 1 or consent of the instructor. 154A is prerequisite to 154B. A study of Afro-American rhythm, dance, music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West Africa, Afro-American and Afro-Brazilian musical traditions.

M180. Analytical Approaches to Folk Music. (Same as Music M180.) Prerequisite: Music 5A-5B-5C or consent of the instructor. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter

M181. Folk Music of Central and Western Europe. (Same as Music M181.) Prerequisites: Music 5A-5B-5C, or Music 140A, or Music 140B, or Music 140C, or consent of the instructor. An analysis of the folk musical styles of Europe, excluding the Balkans and Soviet Russia. Particular attention will be paid to the comparative study of European folk music. Mr. Porter

190. Selected Topics in Folklore and Mythology Studies. Prerequisite: course 15 or course 101 and consent of instructor. A proseminar focusing upon selected problems, data, or themes in folklore and mythology studies. The Staff

199. Special Studies in Folklore. (½ to 1 course) Prerequisite: senior standing and consent of the instructor. The Staff

Related Courses in Other Departments

Upper Division Courses

African Languages 150A-150B-150C. African Literature in English Translation.

Anthropology 102. World Ethnography.

140. Comparative Religion.

141. Social and Psychological Aspects of Myth and Ritual.

144. Aesthetic Anthropology.

Art 101D. Art of the Ancient Near East.

117A. Advanced Studies in Pre-Columbian Art: Mexico.

117B. Advanced Studies in Pre-Columbian Art: Central America.

117C. Advanced Studies in Pre-Columbian Art: The Andes.

118A. The Arts of Oceania.

118B. The Arts of Pre-Columbian America.

118C. The Arts of Sub-Saharan Africa.

118D. The Arts of Native North America.

119A. Advanced Studies in African Art: The Western Sudan.

119B. Advanced Studies in African Art: The Guinea Coast.

119C. Advanced Studies in African Art: The Congo.

Bulgarian 130. Introduction to Bulgarian Civilization.

Classics 161. Introduction to Classical Mythology.

162. Classical Myth in Literature.

166A. Greek Religion.

166B. Roman Religion.

168. Introduction to Comparative Mythology.

Dance 140A-140B-140C. Dance Cultures of the World.

142. Dance in the Balkans.

143. Dance in India.

144. Dance in Indonesia.

145. Dance in Japan.

146. Dance in Latin America.

151A. History of Dance.

English 112. Children's Literature.

French 115A-115B-115C. Medieval French Literature.

German 134. German Folklore.

History 124D. History of Religions: Myth.

Music 132A-132B. Development of Jazz.

140A-140B-140C. Musical Cultures of the World.

141. Survey of Music in Japan.

142A-142B. Music of the Balkans.

143A-143B. Music of Africa.

147A-147B. Music of China.

148. Folk Music of South Asia.

149. Anthropology of Music.

152. Music of India.

153A-153B-153C. Music of the American Indians.

158. New Orleans Jazz.

190A-190B. Proseminar in Ethnomusicology.

Romanian 130. Introduction to Romanian Civilization.

Scandinavian 40. The Heroic Journey in Northern Myth and Legend.

141. Viking Civilization and Literature.

Slavic 99A-99B. Slavic Peoples and Cultures.

Sociology 124. Ethnic and Status Groups.

130. Social Processes in Africa.

131. Latin American Societies.

132. Population and Society in the Middle East.

133. Comparative Sociology of the Middle East.

Theater Arts 117. The Puppet Theater.

Spanish 151. Folk Song in Spain and Spanish America.

FOREIGN LITERATURE IN TRANSLATION

The following courses offered in the departments of language and literature do not require a reading knowledge of any foreign language:

African Languages 150A-150B-150C. African Literature in English Translation.

Ancient Near Eastern 150A, 150C. Survey of Ancient Near Eastern Literatures in English.

Arabic 150A-150B. Survey of Arabic Literature in English.

Armenian 150A-150B. Survey of Armenian Literature in English.

Classics 141. A Survey of Greek Literature in English.

142. Ancient Drama.

143. A Survey of Latin Literature in English.

Czech 155A-155B. Survey of Czech Literature.

Dutch-Flemish and Afrikaans 112. Dutch, Flemish, Afrikaans Literature in Translation.

English 108A-108B. The English Bible as Literature.

French 142. Contemporary French Theater in Translation.

143. Modern French Thought.

144A-144C. The French Novel in Translation.

145. Topics in French Literature.

German 121A. Older German Literature in Translation.

121B. Classical German Literature in Translation.

121C. Special Problems in Literature.

121D. Modern German Literature in Translation-Narrative Prose I.

121E. Modern German Literature in Translation-Narrative Prose II.

121F. Modern German Literature in Translation-Drama and Lyrics.

121G. Modern German Jewish Literature in Translation.

Humanities 1A-1B. World Literature.

Hungarian 121A-121B. Survey of Hungarian Literature in Translation.

Iranian 150A-150B. Survey of Persian Literature in English.

Italian 100A-100B-100C. Main Trends in Italian Literature and their Relation to Other European Literatures (in English).

110A-110B. The Divine Comedy in English.

M140. From Boccaccio to Basile (in English).

150. Modern Italian Fiction in Translation.

Jewish Studies 151A-151B. Modern Jewish Literature in English.

Oriental Languages 140A-140B-140C. Chinese Literature in Translation.

141A-141B. Japanese Literature in Translation.

Polish 152A-152B. Survey of Polish Literature.

Russian 119. Survey of Russian Literature to Pushkin.

120A-120B. Survey of Russian Literature.

124A-124F. Studies in Russian Literature.

125. The Russian Novel in its European Setting.

126. Survey of Russian Drama.

Scandinavian 40. The Heroic Journey in Northern Myth and Legend.

138. Survey of Finnish Literature.

141. Viking Civilization and Literature.

142. Scandinavian Literature of the 18th and 19th Centuries.

143. Modern Scandinavian Literature.

144. Ibsen.

145. Strindberg.

146. Kierkegaard.

147. Hamsun.

Serbocroatian 154A-154B. Survey of Yugoslav Literature.

Spanish 160A. Spanish and Portuguese Literature.

160B. Spanish American and Brazilian Literature.

Yiddish 121A. 20th Century Yiddish Poetry in English Translation.

121B. 20th Century Yiddish Prose and Drama in English Translation.

FRENCH

(Department Office, 160 Haines Hall)

Marc Bensimon, Ph.D., *Professor of French.*
Eric Gans, Ph.D., *Professor of French.*
Hassan el Nouty, Docteur ès Lettres, *Professor of French.*
Francis J. Crowley, Ph.D., *Emeritus Professor of French.*
Milan S. La Du, Ph.D., *Emeritus Professor of French.*
Oreste F. Pucciani, Ph.D., *Emeritus Professor of French.*
Stephen D. Werner, Ph.D., *Associate Professor of French (Chairman of the Department).*
Mary-Ann Burke, Ph.D., *Assistant Professor of French.*
Patrick Coleman, Ph.D., *Assistant Professor of French.*
Sara Melzer, Ph.D., *Assistant Professor of French.*
Shuhsi Kao, Ph.D., *Acting Assistant Professor of French.*

NOTE: For key to symbols, see pages 65 and 66

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Colette Brichant, Docteur de l'Université de Paris, *Lecturer in French.*
Jacqueline Hamel-Baccash, Licencieé-ès-Lettres, *Lecturer in French.*
Madeleine Korol-Ward, Ph.D., *Lecturer in French.*
Padoue de Martini, B.A., *Lecturer in French.*

Preparation for the Major

Required: French 1, 2, 3, 4, 5, 6 (or 7), 12, 15.

Before undertaking Upper Division work in *grammar, composition, advanced phonetics or civilization,* the student will be required to take French 1, 2, 3, 4, 5, 6 (or 7) and 15 or their equivalents. Students receiving less than a grade of B in French 6 will take French 7 (minimum grade for continuation C).

Before undertaking Upper Division work in *literature,* the student will, in addition to the above courses, be required to take French 12, "Introduction to the Study of French Literature." The student will normally take French 6 before undertaking French 12 or French 15; highly qualified students who have obtained the grade of A in French 5 may enroll in French 12 concurrently with French 6 *with the permission of the instructor.*

The Major

Four majors are offered by the Department.

Plan A: Leading to the Bachelor of Arts in French and subsequently to the Master's degree, Plan A, or to the standard elementary or secondary credential. Required: 15 full courses of upper division work, including French 100A-100B-100C, 103, 114A-114B-114C; two quarters from the offerings French 132-135*, 3 courses in French literature chosen from the offerings 115-120**; three elective courses normally to be chosen from upper division offerings in the Department of French in language, civilization or literature. A maximum of one upper division course outside the Department may be included in the major program with the approval of the major adviser.

*A course in French History may be substituted for one of these with the permission of the major adviser.

Plan B: With emphasis on literature, leading to the Bachelor of Arts in French and subsequently to the Master's degree, Plan B. Required: 15 full courses of upper division work including French 100A-100B-100C, 103, 114A-114B-114C; 6 courses in French literature chosen from the 115-120 offerings**; 2 elective upper division courses to be chosen upon consultation with the major adviser, either from offerings of the Department of French, from the Humanities or Social Sciences Division of the College of Letters and Science, or from the College of Fine Arts.

Plan C: French Studies: A core program in French allowing, in addition, for individual selection of relevant courses in related fields in the Humanities, the Social Sciences, Linguistics, etc. Required: 15 full courses of upper division work, including French 100A-100B-100C, 103, 114A-114B-114C; 3 courses of French literature chosen from the offerings 115-120**; 5 upper division elective courses in the fields relevant to French Studies to be chosen in or out of the Department of French upon consultation with the major adviser. This program does not normally prepare admission to the Master's program in French at UCLA (see Plans A and B).

**In all Major Plans one course from the 121 series and/or one undergraduate seminar (French 150-160 not including 157) may be substituted for courses in the 115-120 offerings.

Plan D: French and Linguistics: In addition to the normal preparation for the major, students are required to complete the sixth quarter of work in one other foreign language or the third quarter in each of two other foreign languages. Required: French 100A, 100B, 100C, 103, 114A, 114B, 114C; two courses from French 105, 106, 107, 108A; Linguistics 100, 103, 110, 120A, 120B, 164 or 165A or 165B.

It is strongly advised that students who intend to pursue advanced degrees begin preparation for the language requirements at the undergraduate level. Students whose knowledge of French exceeds the preparation usually received in courses preparing for the Major and who demonstrate the requisite attainment in French 100A, 100B, or 100C will substitute for those courses in grammar and composition an equivalent number of upper division courses in the Department of French upon consultation with the major adviser. All prospective French majors who are native or quasi-native speakers of French must see the major adviser before beginning upper division work in the Major.

All major students must complete a minimum of 9 courses of appropriate upper division work in the Department of French.

Course work taken on a Passed/Not Passed basis is *not acceptable* in any area of the Major program.

Students who fail to maintain a C average or better in all upper division work undertaken in fulfillment of their French Major will, upon approval of the Dean of the College of Letters and Science, be excluded from the major in French.

Students intending to major in French must consult a major adviser before registering for upper division courses in fulfillment of the major.

The Honors Program in French

Majors with a 3.5 grade point average in the Department of French and a 3.3 overall grade point average will be eligible to apply for the Honors Program in French. Interested students should contact the Professor in charge of French 140A, 140B near the end of their Junior year and should make application at that time if they wish to enter the program. Applications should include: (1) a letter in French describing the student's field of interest in French literature and culture; (2) the student's final examination in French 100B, 100C, 103 or a final examination or term paper from a literature course. If these materials meet with approval, the student will be called for an interview. Students admitted to the program will enroll in French 140A-140B. French 140A and 140B are seminars taught by a member of the professorial staff. 140C is to be devoted to the preparation of an individual project, normally related to the topic of 140A or B; this work will be undertaken under the guidance of a faculty member (not necessarily the instructor of 140A).

140A-140B-140C. Honors Program in French. Prerequisites: junior or senior standing in French with 3.5 grade-point average in the major, a 3.3 overall average and consent of the Department.

140A. Honors Seminar in French. Seminar on different aspects of a selected literary genre, such as Drama, Poetry, the Novel, etc.

140B. Honors Seminar in French. Seminar on a chosen chosen theme or particular problem of French literature, civilization or ideas.

140C. Individual study on a topic related to that of 140A or B, leading to an essay to be written under the guidance of a faculty member.

Teaching Credential Requirements

Students desiring a single-subject teaching credential in French must have the approval of the French Department in order to gain admission to student teaching. For the Single Subject Instruction Credential, this approval is contingent upon a major (or the equivalent) in French and the successful completion of French 370 and 495. French 370 and 495 should be taken prior to student teaching. Under exceptional circumstances, the Department may allow the student to enroll in these courses concurrently with a student teaching assignment.

Multiple subject instruction credential candidates who select French in partial fulfillment of the Special Program in Diversified Liberal Arts must complete 310A and 310B prior to student teaching.

For additional information, consult the Graduate School of Education (Moore Hall 201) and the Department of French (Haines Hall 160).

Lower Division Courses

The ordinary prerequisites for each of the lower division courses are listed under the description of these courses. Students who have had special advantages in preparation may, upon examination or by recommendation of the instructor, be permitted a more advanced program. No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition.

1. Elementary French. Sections meet five hours weekly. Not available for academic credit for those students who have completed more than one year of high school French or the equivalent. The student will, however, be credited with four units toward their minimum progress requirement.
Ms. Hamel-Baccash in charge

1R. Introduction to the Reading of French. (¾ course) Classes will meet three times a week. This course is intended to enable students to acquire basic reading skills in French. Attention will be given at an early stage to the specialized vocabulary of particular scientific and humanistic disciplines. (Should not be taken concurrently with French I. Credit cannot be received for both courses.)
Ms. Brichant in charge

1G. Elementary French for Graduate Students. (No credit) Sections meet three hours weekly.
Ms. Brichant in charge

2. Elementary French. Sections meet five hours weekly. Prerequisite: course 1 or advanced placement standing. Not available for academic credit for those students who have completed two years of high school French or equivalent. The student will, however, be credited with four units toward their minimum progress requirement.
Ms. Hamel- Baccash in charge

2R. Intermediate Reading of French. (¾ course) Classes will meet three times a week. This course will pursue the work begun in 1R. It will gradually introduce texts of a more specialized nature in the various disciplines. (Should not be taken concurrently with French II. Credit cannot be received for both courses.) Ms. Brichant in charge

2G. Elementary French for Graduate Students. (No credit) Sections meet three hours weekly. Prerequisite: course 1G or the equivalent.
Ms. Brichant in charge

3. Elementary French. Sections meet five hours weekly. Prerequisite: course 2 or two years of high school French or advanced placement standing.
Ms. Hamel-Baccash in charge

3R. Advanced Reading of French. (¾ course) Classes will meet three times a week. This course will pursue the work begun in 1R and 2R. It will be conducted in groups arranged according to field of study. (Should not be taken concurrently with French III. Credit cannot be received for both courses.) Ms. Brichant in charge

4. Intermediate French. Sections meet five hours weekly. Prerequisite: course 3 or three years of high school French or advanced placement standing.
The Staff

5. Intermediate French. Sections meet five hours weekly. Prerequisite: course 4 or four years of high school French or advanced placement standing.
The Staff

6. Intermediate French. Sections meet five hours weekly. Prerequisite: course 5 or advanced placement standing. The Staff

7. Advanced French. Sections meet five hours weekly. Prerequisite: course 6 or advanced placement standing. The Staff

10A-10D. French Conversation. (½ course each) Sections meet three hours weekly. Prerequisite: course 3 with grade A or B or permission of the Department. The Staff

12. Introduction to the Study of French Literature. Classes meet three hours weekly. Prerequisite: course 6 (or 7) or the equivalent or permission of

the instructor. Principles of literary analysis as applied to selected texts in poetry and prose.
The Staff

15. Theory and Correction of Diction. Classes meet four hours weekly. Prerequisite: course 6 or consent of instructor. French pronunciation, diction, intonation in theory and practice; phonetic transcription, phonetic evolution of the modern language; remedial exercises; recordings.
Ms. Korol–Ward in charge

31A-31B-31C. France Through the Ages (in English.) A survey of French civilization with emphasis on social, intellectual and artistic trends.
Ms. Brichant

31A. From the origins through the Renaissance.

31B. From the Renaissance to the 20th century.

31C. Contemporary France.

Upper Division Courses

The prerequisites to all upper division courses taken in partial fulfillment of the French Major are French 6 with a grade of B or better (otherwise French 7 with a grade of C or better), French 12, French 15 or their equivalents. All upper division courses except as otherwise indicated are conducted in French. Credit will ordinarily not be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition. French 104, 105, 106, 107 and 108A are not sequential and may be taken in any order, provided the prerequisites for each course are fulfilled.

100A. Advanced Grammar I. Prerequisite: course 6 and (normally) course 15, or the equivalent. A placement examination will be administered and qualified students will be advanced to French 100B or 100C.
The Staff

100B. Advanced Grammar II. Prerequisite: course 100A or the equivalent. A placement examination will be administered and qualified students will be advanced to French 100C or to 103.
The Staff

100C. Advanced Grammar III. Prerequisite: course 100B or the equivalent. A placement examination will be administered and qualified students will be advanced to French 103.
The Staff

103. Advanced Stylistics. Classes meet three hours weekly. Prerequisite: course 100C or the equivalent. This course is required of all majors as well as of all candidates for the Standard Credential in Elementary or Secondary Teaching.
Ms. Korol–Ward in charge

104. Literary Composition. Classes will meet once a week for two hours. Prerequisite: course 103 or the consent of the instructor.
The Staff

105. French Linguistics. Classes will meet three hours weekly. Prerequisite: consent of the instructor.
The Staff

106. Advanced French Phonetics. Classes meet twice weekly. Prerequisite: consent of the instructor.
Ms. Korol–Ward

107. Contemporary Spoken French. Classes will meet three hours weekly; laboratory sessions may be added as needed. Prerequisites: course 103 or consent of the instructor.
The Staff

108A-108C. Advanced Practical Translation.

108A. Classes will meet three hours weekly. Prerequisite: course 103 with a grade of B, or consent of instructor. An introduction to the translation of advanced texts of general interest, with work in the theory of translation.

108B. Classes will meet three hours weekly. Prerequisite: the former 108 course, or 108A, or consent of instructor. Practice in the translation of technical documents and texts; comparative stylistics of translation.

108C. Classes will meet three hours weekly. Prerequisite: course 108B or consent of instructor. Advanced work in areas of general and specialized interest together with exercises in consecutive and simultaneous translation.
The Staff

114A-114B-114C. Survey of French Literature I, II, III. Prerequisite: course 12 or the equivalent. A survey of French literature from the Medieval period through the 20th century.

114A. Medieval and Renaissance Literature.

114B. Literature of the Classical Era (17th and 18th centuries).

114C. Modern Literature (19th and 20th centuries).
The Staff

115A-115D. Medieval French Literature.

115A. The Medieval Epic.

115B. The Medieval Romance.

115C. The Medieval Theater.

115D. Medieval Lyric Poetry. Ms. Burke

116A-116D. The Renaissance.

116A. Rabelais and His Time.

116B. Ronsard and His Time.

116C. Montaigne and His Time.

116D. Renaissance Theater. Mr. Bensimon

117A-117D. The Seventeenth Century.

117A. Corneille and the Baroque.

117B. The Classical Theatre: Racine and His Contemporaries.

117C. Moliere and the Comedy of the XVIIth Century.

117D. Philosophers, moralists and novelists of the XVIIth Century. Ms. Melzer

118A-118D. The Eighteenth Century.

118A. Comedy and Drama.

118B. Voltaire and the Encyclopedists.

118C. Diderot and Rousseau.

118D. The Novel. Mr. Coleman, Mr. Werner

119A-119D. The Nineteenth Century.

119A. Romanticism.

119B. The Generation of 1848.

119C. Naturalism and Symbolism.

119D. The Turn of the Century.
Mr. el Nouty, Mr. Gans

120A-120D. The Twentieth Century.

120A. Gide, Proust and Their Time.

120B. Post World War I French Writers.

120C. Sartre, Camus and Their Time.

120D. Contemporary French Writers.
Ms. Kao, Mr. Pucciani

121A-121D. Contemporary Literature of French Expression.

121A. Franco-African Literature.

121B. Franco-Canadian Literature.

121C. Franco-Helvetian and Franco-Belgian Literature.

121D. Franco-Caribbean Literature.
Mr. el Nouty

122. French Folklore and Young People's Literature. Ms. Korol-Ward

123. French Popular Literature. "Romans policiers," "Theatre des boulevards," "chansons-poemes," etc.
The Staff

124. Dramatic Interpretation. Study of the techniques of stage direction and interpretation of French Drama. A survey of some of the different theories and approaches used on the French stage. Each student will act or direct a scene from a play to be performed under rehearsal conditions.
Ms. Korol–Ward

132. Contemporary France. Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities.
Ms. Brichant

133. French Institutions from the Revolution to the Present. Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities.
Ms. Brichant

134. The "Ancien Regime." Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities.
Ms. Brichant

135. From Prehistoric Times to the Renaissance. Classes meet three hours weekly. A fourth hour may be required for the viewing of films and other laboratory activities.
Ms. Brichant

138. Cinema and Literature in Contemporary France. Classes meet three hours weekly. Additional hours may be required for the viewing of films and other laboratory activities. Course may be taken as an elective in partial fulfillment of French Majors Plans A, B and C.
The Staff

140A-140B. Honors Program in French. Prerequisites: junior or senior standing in French with 3.6 grade-point average in the major, a 3.3 overall average and consent of the Department.

140A. Honors Seminar in French. Seminar on a specific topic in French literature. Readings, oral reports, discussion.

140B. Honors Tutorial in French. Prerequisite: course 140A. Individual study on a topic related to that of 140A, leading to an essay to be written under the guidance of a faculty member.
Mr. Melzer in charge

Undergraduate Seminars

Courses 150-157 may be repeated once for credit with the consent of the major adviser.

150. Studies in Medieval Literature. The Staff

151. Studies in Sixteenth Century Literature.
The Staff

152. Studies in Seventeenth Century Literature.
The Staff

153. Studies in Eighteenth Century Literature.
The Staff

154. Studies in Nineteenth Century Literature.
The Staff

155. Studies in Twentieth Century Literature.
The Staff

156. Studies in Contemporary Literature of French Expression. The Staff

157. Studies in the French Language. The Staff

158. The Woman in French Literature. This course will explore a selected aspect of the situation of woman in French literature as author, character, symbol, etc.
The Staff

160. Studies in the History of Ideas. Specific themes will be chosen and developed which will address a particular problem of French literature, civilization or ideas. The course may be repeated for credit with the approval of the major adviser.
The Staff

199. Special Studies in French. (½ to 2 courses) Prerequisite: junior or senior standing, consent of the instructor and consultation with Chairman of major advisers. Course may be taken twice.
Department Chairman in charge

Courses in English

The following courses may not be taken for graduate credit; they may be taken as out-of-department electives for the Undergraduate Majors.

142. Contemporary French Theater in Translation. Classes meet two hours weekly. This course may be considered as an out-of-department elective for the purpose of satisfying major requirements.
Ms. Korol–Ward

143. Modern French Thought. Classes meet two hours weekly. Contemporary works will be read and discussed in translation. Course may be taken as an elective in partial fulfillment of French Major Plan C. Course may be considered as an out-of-department elective for the purpose of satisfying major requirements.
The Staff

NOTE: For key to symbols, see pages 65 and 66

144A-144C. The French Novel in Translation. Classes meet two hours weekly. Authors to be studied will be announced quarterly. Course may be considered as an out-of-department elective for the purpose of satisfying major requirements.
The Staff

145. Topics in French Literature. To be announced each quarter. This course may not be taken for major or graduate credit but may be considered as an out-of-department elective for the purpose of satisfying major requirements. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

GENETICS

For courses in genetics, see under departments of Biology and Microbiology.

GEOCHEMISTRY (INTERDEPARTMENTAL)

(See Earth and Space Sciences.)

GEOGRAPHY

(Department Office, 1255 Bunche Hall)

Charles F. Bennett, Ph.D., *Professor of Biogeography.*
C. Rainer Berger, Ph.D., *Professor of Geography and Geophysics.*
Henry J. Bruman, Ph.D., *Professor of Geography.*
William A. V. Clark, Ph.D., *Professor of Geography.*
Gary S. Dunbar, Ph.D., *Professor of Geography.*
Huey L. Kostanick, Ph.D., *Professor of Geography.*
Richard F. Logan, Ph.D., *Professor of Geography.*
Tom L. McKnight, Ph.D., *Professor of Geography (Chairman of the Department).*
Howard J. Nelson, Ph.D., *Professor of Geography.*
Antony R. Orme, Ph.D., *Professor of Geography.*
Jonathan D. Sauer, Ph.D., *Professor of Geography.*
Werner H. Terjung, Ph.D., *Professor of Geography.*
Benjamin E. Thomas, Ph.D., *Professor of Geography.*
Norman J. W. Thrower, Ph.D., *Professor of Geography.*
Robert M. Glendinning, Ph.D., *Emeritus Professor of Geography.*
Clifford H. MacFadden, Ph.D., *Emeritus Professor of Geography.*
Joseph E. Spencer, Ph.D., *Emeritus Professor of Geography.*
Gerry A. Hale, Ph.D., *Associate Professor of Geography.*
Christopher L. Salter, Ph.D., *Associate Professor of Geography.*
Stanley W. Trimble, Ph.D., *Associate Professor of Geography.*
Hartmut Walter, Ph.D., *Associate Professor of Biogeography.*
Walter E. Westman, Ph.D., *Associate Professor of Geography.*
J. Nicholas Entrikin, Ph.D., *Assistant Professor of Geography.*

Geography as a Major

The Department of Geography offers a choice between two undergraduate majors: (1) the Major in Geography; and (2) the Major in Analysis and Conservation of Ecosystems. Prospective majors are urged to discuss the nature and opportunities of each program with the appropriate Undergraduate Advisor. In both programs, the Department is committed to effective quality education concerning the manifold interactions of environment and society. As such, all students are encouraged to work in close and frequent association with faculty members appropriate to their interests. Students are assured of a warm response from faculty members in whose fields of instruction and research they show enthusiasm.

The Major in Geography

Geography is a vital discipline that explores the interface between environment and society. But Geography is more than a discipline. It is also a method of study, a correlative science that seeks to establish relationships both within and between the many complex expressions of environment and society. In this guise, Geography embraces many other disciplines of the physical, biological, and social sciences, but in its use of data, its search for cause and effect, and its understanding of process and response, Geography offers a unique approach to the study of the character and problems of the world we live in.

In essence, Geography is concerned with three aggregate aspects of the world around us: 1) the physical and biological characteristics, processes and responses observable at or near the Earth's surface; 2) the activities by which men and women have modified this natural environment, both past and present; and 3) the order and disorder that these human activities have created in sculpturing the natural and artificial landscapes. Tools and concepts of the physical, biological, and social sciences are used to analyze and explain these varied phenomena.

A geographer is concerned with the origins, development, morphology and processes of the landscapes inherited from nature, and with the institutions and patterns associated with the human use of these landscapes. This information helps the geographer to predict the nature and direction of future landscape change. A geographer is a person who has eyes for the world around him or her, concern for the processes and dynamics of the changes that shape that world, and interest in helping to chart future growth along lines of rational development and careful management of both human and non-human resources.

One or more of four general objectives may be recognized by those persons who select the Major in Geography, namely: (1) a broad understanding of the Earth's many environments and peoples as part of a liberal education; (2) preparation for employment in areas concerned with environment and society, for example in environmental impact studies and urban planning; (3) preparation for graduate study in the discipline leading to advanced degrees and professional occupation in both academic and non-academic areas; and (4) preparation for the student who desires a teaching credential with a specialty in Geography and the physical, biological, or social sciences.

Students majoring in Geography are encouraged to consult the Undergraduate Advisor (Geography) for the planning of a program suitable to the student's particular and individual objective. All faculty and other appropriate resources of the Department of Geography are available to Geography majors, though it is realized that students will work more closely with some faculty members than with others. The Undergraduate Advisor (Geography) advises majors concerning the faculty and other resources most pertinent to student needs.

Preparation required. Geography 1, 2, 3, 4; and Mathematics 50A or equivalent are required of all majors. A Mathematics background, such as Mathematics 3A-3B-3C or 4A-4B or 31A-31B-32A, is recommended. All prospective majors, including transfer students; should consult the Undergraduate Advisor (Geography) before arranging a program in Geography and its allied fields.

Foreign language or mathematics requirement. Every Geography major is required to pass five quarter courses in foreign language (in no more than two languages), or mathematics, in any combination. Each year of high school language (but not mathematics) will be accepted as equivalent to one quarter course. A score of 500 on an Educational Testing Service (ETS) language examination will also satisfy this requirement. In mathematics, only courses 2, 4A, 4B, 3A, 3B, 3C, 31A, 31B, 32A or 50B, or equivalent are acceptable. This requirement may be satisfied on a Pass-No Pass basis or by a letter grade, but Pass or at least a C grade is required in all courses intended to satisfy this departmental requirement. These courses may be used to meet the Breadth Requirements of the College of Letters and Science.

Major requirements. The major requires a minimum of 10 upper division courses in Geography chosen in consultation with a departmental advisor and taken for a letter grade. In meeting this minimum requirement, each major must take three courses from Group I – The Environment; three courses from Group II – Human Geography; one course from Group III – Procedures; and two courses from Group IV – Regions; and one elective upper division course in geography. Majors are encouraged to take more than ten upper division courses.

Allied Fields. Every Geography major shall develop some competence in one or two allied fields. This program consists of a group of at least *four* upper division courses chosen from at least one but not more than *two* of the following disciplines: Anthropology; Atmospheric Sciences; Biology; Chemistry; Earth and Space Sciences; Economics; Folklore; History; Management; Mathematics; Philosophy, Physics; Political Science; Psychology; Public Health; Sociology. Other disciplines require departmental approval on an individual case basis in order to be classified as acceptable.

All courses that are required for the undergraduate major in Geography must be taken for a letter grade. This includes all lower and upper division courses in Geography, and all four upper division courses in the Allied Fields.

A "C" average in the major is required for graduation.

Honors Program. Honors in the Geography major may be obtained through procedures described under courses 199HA-199HB.

The Major in Analysis and Conservation of Ecosystems

The Major in Analysis and Conservation of Ecosystems offers a choice between two plans, each of which has its foundations within the Department of Geography but is essentially interdisciplinary in scope.

Plan 1 is designed primarily for students seeking a general education that focuses on understanding the problems and issues related to past, present and future human manipulation and utilization of the world's ecosystems. It is also suited to those students who wish to lay the foundation for educational contributions to non-academic society via the principal communicative media. This Plan is also suitable as preparation for graduate school.

Plan 2 is designed primarily for students who wish to follow careers in the environmental area or who wish to pursue future work at the graduate level and beyond in various aspects of the analysis and conservation of ecosystems. Like Plan 1, Plan 2 is deliberately broad in scope but is more rigorous in terms of the preparation and course work required.

Both Plan 1 and Plan 2 have certain features of which students should be appraised. *First,* a high degree of emphasis is placed on student input and student-faculty interaction – particularly with respect to seminars. It is therefore essential that close liaison be developed and maintained between all persons involved. The faculty is particularly receptive to student enthusiasm. *Second,* students majoring in Analysis and Conservation of Ecosystems are encouraged to consult with the Undergraduate Advisor (Ecosystems) for the planning of a program suitable to the student's particular and individual objective. All faculty and other appropriate resources of the Department of Geography are available to Ecosystems majors, though it is realized that students will work more closely with some faculty members than with others. The Undergraduate Advisor (Ecosystems) advises majors concerning the faculty and other resources most pertinent to student needs. *Third,* all courses that are required for the Major in Analysis and Conservation of Ecosystems, both within and beyond the Geography Department, must be taken for a letter grade. This includes all lower and upper division courses including electives chosen to complete the Major.

A "C" average in the major is required for graduation.

Honors Program; Honors may be obtained by students majoring in either Plan I or Plan II of the Analysis and Conservation of Ecosystems as follows: Attainment and maintenance of at least a

3.40 GPA in the major from commencement of senior year to graduation, and completion of Geography 196—Senior Thesis in Ecosystem Analysis. The Senior Thesis is a substantial though not necessarily lengthy contribution to ecosystem analysis that must be submitted to the principal faculty member concerned not later than early in student's final quarter. The topic is selected by the student in consultation with one or more faculty members, and a plan of work filed with the Undergraduate Advisor (Ecosystems) from whom further guidelines may be obtained.

Plan 1

Preparation required. Biology 2; Geography 1, 2, 5; and Mathematics 50A, are required of all majors. Geography 3 and 4 are recommended. A Mathematics background, such as """ Mathematics 2, 3A-3B-3C or 4A-4B or 31A-31B-32A, is recommended. All prospective majors, including transfer students, should consult the Undergraduate Advisor (Ecosystems) before arranging a program in the Analysis and Conservation of Ecosystems.

Major requirements. Economics 100; Geography 129; three courses chosen from Geography Group Ia; two courses chosen from Geography Group Ib and one course from Geography Group III.

Electives. Six courses should be chosen from the following list with the assistance of a faculty advisor: Anthropology 144, 145, 153, 160; Art 168A, 168B; Architecture M190; Economics 110, 111, 170; Geography: not more than three courses from 100 to 199; one course only from History 106A-J; Journalism 182A, 182B, 192; Political Science 141, 142, Public Health 150, 152, 186; Sociology 125, 126.

Although there is no foreign language requirement for Plan 1, students are encouraged to acquire some foreign language capability so as to gain access to pertinent literature written in languages other than English.

Plan 2

Preparation required. Biology 5, 6; Chemistry 11A; Geography 1, 2, 5; Mathematics 3A-3B-3C, or 31A-31B-32A, and 50A, and Engineering 10S are required of all majors. Geography 3 and 4, Mathematics 50B, and Engineering 11 are recommended. A reading knowledge of a modern foreign language is required; this may be met by three years of language at High School or three quarters of one language at College level.

Major requirements. One course chosen from Biology 103 or 109 or 111 or 118; Economics 100, Geography 129, three courses from Geography Group Ia; two courses from Geography Group Ib and two courses from Geography Group III.

Electives. No more than three courses may be taken in any one department to satisfy the elective requirement. Six courses should be chosen from the following list with the assistance of a faculty advisor: Anthropology 153, 160; Biology 103, 109, 111, 118, 120, 122, 125, 131, 147; Earth and Space Sciences 139; Economics 111, 170; Engineering M107A, 180A, 181A, 184A, 184D; Geography: not more than three courses from 100 to 199; Political Science 141, 142; Public Health 102, 152; Sociology 126, 141.

Biology course taken for elective requirement may not be used to fulfill major requirement in Biology.

Lower Division Courses

Check with departmental office to learn of additional offerings, seminar topics, and specific instructors for the quarter you wish to enroll in courses in geography.

1. Physical Environment. (Formerly numbered 1A.) Lecture, three hours; laboratory, one hour. A study of the Earth's physical environment with particular reference to the nature and distribution of landforms and climate. The Staff

2. Biogeography. Lecture, three hours; laboratory, one hour. Prerequisite: course 1 or equivalent. A study of the Earth's biosphere with particular reference to the evolution and distribution of plants, animals and soils. The Staff

3. Cultural Geography. (Formerly numbered 1B.) Lecture, three hours; discussion, one hour. A broad examination of the basic cultural variables in the human occupance of the earth's surface. The approach is ecological, spatial, and historical. The Staff

4. Human Location and Behavior. (Formerly numbered 1C.) Lecture, three hours; laboratory, one hour. Introduction to the basic concepts used in modern urban and economic geography. Emphasis on giving a better understanding of the effects of location on human behavior. Discussion and practical exercises focus on the analysis of problems in the Los Angeles urban environment. The Staff

5. Man and the Earth Ecosystem. Lecture, three hours; laboratory, one hour. An examination of the historical and contemporary roles of man as a major agent of biological change in the earth ecosystem. The Staff

10. Freshman Seminar in Geography. Staff-student discussion, three hours; reading period, one hour. Prerequisites: course 1 or 2 or 3 or 4 or 5 as befits the theme. A seminar designed to explore various themes and issues pertinent to environment and people. Seminar topics will be advertised in the Department during previous quarter. The Staff

Upper Division Courses

GROUP I: THE ENVIRONMENT

Ia. Basic Environmental Studies

M102. Geomorphology. (Same as Architecture and Urban Planning M196.) Lecture, three hours; reading period, one hour. Prerequisites: course 1 or equivalent; or junior standing or consent of instructor. A study of the processes responsible for shaping the world's landforms with emphasis on the relationship between the energy and materials involved and the magnitude and organization of the surface forms produced. Mr. Orme

104. Climatology. Lecture, three hours; reading period, one hour. The many relations between climate and the world of man are examined. The objective is to apply basic energy budget concepts to the microclimates of relevance to the ecosystems of agriculture, animals, man and urban places. Mr. Terjung

105. Hydrology. Lecture, three hours; reading period, one hour. Prerequisite: course 1 or equivalent. The role of water in geographic systems: hydrologic phenomena in relation to climate, landforms, soils, vegetation, and cultural processes and impacts on the landscape. Field projects required. Mr. Trimble

106. Soils. Lecture, three hours; reading period, one hour. Prerequisites: course 1 or equivalent; Chemistry 1A or 2A, or consent of instructor. A study of the origins, evolution, properties and utilization of soils, with special emphasis on the world's major soil groups. The Staff

108. World Vegetation. (Formerly numbered 110.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2 or equivalent, or consent of instructor. Characteristics, distribution, environmental and cultural relationships of the world's principal vegetation patterns. Mr. Sauer

109. Ecology of Vegetation. Lecture, three hours; field, twelve hours total. Prerequisites: course 2, Math 50A and Biology 11, or consent of instructor. Principles of Plant ecology at the community and ecosystem level. Emphasis on structure, dynamics and measurement of the characteristics of terrestrial vegetation. Mr. Westman

110. Plant Migration. (Formerly numbered 112.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2 and Biology 2, or equivalent, or consent of instructor. Mechanisms of geographic patterning of natural and artificially modified vegetation. Emphasis on range changes for which there is direct fossil or documentary evidence. Mr. Sauer

112. Animal Geography: Biophysical Aspects. (Formerly numbered 116A.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1 and 2; Biology 2. A study of the factors and principles of animal distribution and dispersal on continents and islands of the earth in time and space. Mr. Bennett, Mr. Walter

114. Physical Bases of Geography. Lecture, three hours; discussion, one hour. Prerequisites: Geography 1, 2 and 3 courses from Group Ia. Senior standing. An integrative study to the physical bases of geography, in a framework of world climatic regions. Mr. Logan

Ib. Applied Environmental Studies

116. Origins and Histories of Crop Plants. (Formerly numbered 114.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2 and Biology 2, or equivalent, or consent of instructor. Geographic patterns of domestication and diffusion of useful plants from antiquity to the present, based on detailed case histories of selected species. Mr. Sauer

117. Animal Geography: Cultural Aspects. (Formerly numbered 116B.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5; Biology 2 or the equivalent. A study of human cultural factors influencing animal distributions; the roles of animals in human societies; origins and diffusion of domesticated animals. Mr. Bennett, Mr. Walter

118. Medical Geography. Lecture, three hours; reading period, one hour. Prerequisite: course 5, or consent of instructor. An examination of patterns of population-place-disease interactions and some effects of change and development on disease etiology and problems of health care. The Staff

119. Agricultural and Pastoral Ecosystems. (Formerly numbered 107.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5, 116, and 112 or 117 or the equivalent. Geography 120 and 121 recommended. Students who do not meet the prerequisites should not attempt this course. A geographical, ecological and historical analysis of the world's agricultural and pastoral systems. Emphasis is on energy flows, nutrient cycles and ecological and social problems associated with the various systems. Mr. Bennett

120. Conservation of Resources: North America. Lecture, four hours. Prerequisites: courses 1, 2, or equivalent, or upper division standing. An analysis of the basic principles and problems associated with the conservation of natural resources in the United States and Canada. Mr. Bennett, Mr. McKnight, Mr. Trimble

121. Conservation of Resources: Underdeveloped World. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, or equivalent, or upper division standing. An analysis of the principles and problems of the conservation of natural resources of the underdeveloped world. Mr. Bennett

122. Man and Environment in Africa. (Formerly numbered 119.) Lecture, three hours; discussion, one hour. Prerequisites: courses 1, 2, and 5. An analysis of the unique ecosystems of tropical and subtropical Africa with respect to traditional and modern human impacts on vegetation, wildlife, and other natural resources. Further, a discussion of development goals in relation to socio-economic policies and Africa's environmental heritage. Mr. Walter

124. Environmental Impact Analysis. (Formerly numbered 164.) Lecture, three hours; discussion, one hour. Prerequisites: at least two courses from among Geography 100-127; Math 50A, Geography 2, 5 and 128 recommended. Introduction to the interdisciplinary analysis of local and regional impacts on environmental systems. Includes

NOTE: For key to symbols, see pages 65 and 66

evaluation of state and federal concepts for the analysis of environmental impact. Mr. Westman

125. Marine Ecosystems. (Formerly numbered 108.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 2, 5; Biology 1A-1B or equivalent. Description and analysis of the principal marine ecosystems with particular emphasis upon those which are chiefly affected by human activity. Further, there will be a detailed evaluation of the ecological and conservation problems associated with human use of marine ecosystems.
Mr. Bennett

M127. Soil, Plants, and Society. (Same as Biology M127.) Prerequisite: Chemistry 1A, 1B, 1C or equivalent or consent of the instructor. A general treatment of: soil development and morphology and the physical and chemical properties of soils as they relate to plant growth and distribution; soil resources, management, conservation and cultural aspects. Soil profiles examined on the field trip are used to explain developmental phenomena.
The Staff

128. The World's Ecosystems: Problems and Issues. (Formerly numbered 123.) Lecture, three hours; discussion, one hour. Prerequisites: courses 120 or 121. Principal objectives are (1) to identify past, current, and projected problems associated with man-induced ecological disturbances and (2) to identify and evaluate the societal and biophysical factors which have contributed to the identified ecological disequilibria. The Staff

129. Problems of the Environment: Seminar. Lecture, three hours; reading period, two hours. Prerequisites: senior standing; four courses from Group I; Math 152A highly recommended. Class enrollment limited. Qualitative-quantitative analysis of problems associated with rational protection and use of selected environmental systems (urban, rural, forest, desert, coastal, water, soil or others).
The Staff

GROUP II: HUMAN GEOGRAPHY

IIa. Cultural and Historical Geography

130. Geographical Discovery and Exploration. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3 or equivalent, or upper division standing. A survey of the history of exploration, from earliest times to modern, with emphasis on the period from Marco Polo to the present.
Mr. Dunbar, Mr. Thrower

132. Cultural Geography of the Pre-Modern World. Lecture, three hours; reading period, one hour. Prerequisite: course 3 or equivalent. An evolutionary and structural approach to the socio-cultural geography of the earth prior to the rise of the modern-world system. Mr. Hale, Mr. Salter

133. Cultural Geography of the Modern World. Lecture, three hours; reading period, one hour. Prerequisite: course 3 or equivalent. An evolutionary and structural approach to the socio-cultural geography of the modern-world system, with particular emphasis upon the structure and functioning of its core, semi-periphery, and periphery.
Mr. Hale, Mr. Salter

135. Reading the Cultural Landscape: Perspectives and Processes. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing or consent of instructor. Understanding personal and societal environmental preferences begins with analysis of the landscape. This course deals with attitudes toward the cultural or humanized landscape, methods of landscape analysis, problem landscapes and environments of the future through lectures, readings and field study. Mr. Salter

136. Historical Geography of the United States. (Formerly numbered 144.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the evolution of the cultural landscapes of the area that is now the United States. Examination of past geographies and of geographical change through time. Mr. Dunbar

140. Political Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. The principles of political geography as developed through regional studies of political phenomena throughout the world. Current problems in domestic and international affairs will be considered. Mr. Kostanick

142. Population Geography. Lecture, three hours; reading period, one hour. A study of the social and behavioral perspectives influencing people in their patterns of demographic change, migration and mobility with special emphasis on spatial relationships and selected case studies. The Staff

IIb. Economic and Urban Geography

145. Spatial Organization of Society: Structure. Lecture, three hours; reading period, one hour. Prerequisites: course 4, Elementary Statistics, or consent of instructor. A study of the spatial structure of society as an expression of human decisions. Emphasis is on the processes affecting city size and distribution, the internal structure of cities, rural land use, and industrial location. Mr. Entrikin

146. Spatial Organization of Society: Behavior. Lecture, three hours; reading period, one hour. Prerequisites: course 4, Elementary Statistics, or consent of instructor. A study of human behavior within the spatial context. Discusses regularities in patterns of trade, consumer behavior, migration, mobility, communication and diffusion.
Mr. Entrikin

148. Economic Geography. (Formerly numbered 160.) Lecture, three hours; reading period, one hour. Prerequisite: course 4 or consent of instructor. An analysis of those principal economic production systems especially involved with agriculture, foodstuffs, resources and industrialization in the underdeveloped world. The Staff

149. Transportation Geography. Prerequisite: course 3 or 4 or upper division standing. A study of the geographical aspects of transportation, focusing on the characteristics and functions of the various modes and on the complexities of intra-urban transport. Mr. McKnight

150. Urban Geography. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the development, functions, spatial patterns and geographic problems of American Cities.
Mr. Clark, Mr. Entrikin, Mr. Nelson

151. Historical Geography of Cities. Prerequisites: course 3 and 4, or equivalent, or upper division standing. A survey of the diffusion and growth of cities in Western civilization. Two themes will be emphasized, the development of city systems and the evolution of urban internal spatial structure.
Mr. Entrikin

152. World Cities. Lecture, three hours; reading period, one hour. Prerequisite: upper division standing. A discussion of the growth and structure of selected cities as illustrations of the processes of urbanization in different countries and societies. Topics will include rural to urban migration, cities as centers of power, spatial organization, and the tendency to megalopolitanization.
Mr. Clark, Mr. Entrikin

156. Metropolitan Los Angeles. Lecture, three hours; reading period, one hour. Prerequisites: upper division standing. A study of the origins, growth processes, internal structure and pattern, interactions, environmental and spatial problems of the Los Angeles Metropolitan area. Mr. Nelson

159. Problems in Human Geography. Staff-student discussion, three hours; reading period, one hour. Prerequisites: two courses from Group II, Senior standing. Class enrollment limited to fifteen students. A seminar type course in which students carry on intensive research projects. Designed as a "capstone" to courses in this group, the subjects of research will grow out of the previous work.
The Staff

GROUP III: PROCEDURES

160. Field Analysis: Physical Geography. (Formerly numbered 170.) Saturday field trips, 8-5. Prerequisites: courses 1, 2, or equivalent, and consent of the instructor. A student desiring to take this course must notify department chairman of his wish, in writing, at least two quarters in advance of enrolling in this course. The basic methods of geographic analysis of small areas, embracing a variety of physical environments in southern California and including consideration of related human activities. Chiefly field training.
Mr. Logan, Mr. Trimble

161. Field Analysis: Cultural Geography. (Formerly numbered 179.) Prerequisites: courses 1, 3, 4, 132, 133, at least two upper division courses in geography and consent of instructor. Enrollment priority is given to students majoring in geography. The class meets once a week from 8:00-5:00. The observation, analysis and mapping of landscape phenomena of human origin. Techniques of data collection will be examined for such topics as settlement form and pattern, environmental change, historical and demographic change, and land use.
Mr. Salter

162. Field and Laboratory Analysis: Geomorphology, Climatology, Hydrology. Laboratory and field, eight hours per week. Prerequisites: course 1 or equivalent; two courses from 102, 104, 105. Open to Geography and Ecosystems majors only with enrollment priority accorded Ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis and interpretation of phenomena pertinent to the physical environment and interrelated human influences. The Staff

163. Field and Laboratory Analysis: Biogeography. Laboratory and field, eight hours per week. Prerequisites: courses 2, 5 or equivalent; two courses from 106, 108, 109, 112. Open to Geography and Ecosystems majors only with enrollment priority accorded Ecosystems majors. Examination of field and laboratory procedures and intellectual concepts used in the observation, measurement, analysis, and interpretation of phenomena pertinent to biogeography and interrelated human influences. The Staff

166. Map Analysis. (Formerly numbered 171.) Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3 or equivalent, or upper division standing. The analysis of maps, with the aim of deducing the physical, cultural and economic aspects of the region portrayed, including such elements as geomorphic history, hydrography, settlement history, forms of economic livelihood, transportation problems and toponomy.
Mr. Logan

167. Cartography. (Formerly numbered 172.) Lecture, three hours; laboratory, five hours; independent work, two hours. Prerequisites: courses 1, 3, or equivalent, or consent of instructor. Survey of the field of cartography. Includes theory and construction of map projections, compilation procedures, principles of generalization, symbolization, terrain representation, lettering, drafting and scribing, and map reproduction methods. The Staff

168. Computer Cartography. (Formerly numbered 175.) Lecture, one hour; laboratory, three hours; independent study, two hours. Prerequisites: course 167 or consent of instructor. Theory and methods of mapping quantitative information with a computer. Includes problems of acquiring and processing machine readable map data and representing them as point symbols and surfaces.
The Staff

169. The Earth from Above. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, 4 or consent of instructor. This course examines the interface between cartography and remote sensing. By means of a wide variety of imagery from maps and satellite photos, different landscapes are analyzed and explained. Mr. Thrower

170. Presentation and Analysis of Geographic Data. Lecture, two hours; laboratory, one hour. An introduction to the basic techniques that are used in organizing, measuring, and displaying data from field, map, interview and government sources. Mr. Clark

171. Quantitative Analysis. (Formerly numbered 176.) Lecture, three hours; laboratory, one hour. Prerequisites: Mathematics 50B or consent of instructor. An introduction to the methods of measurement and interpretation of geographic distributions and associations. Mr. Clark

M178. Dating Techniques in Environmental Sciences and Archaeology. (Same as Anthropology M175C.) Lecture, three hours; reading period, one hour. Prerequisites: consent of instructor. Introduction to scientific dating methods such as radiocarbon dating, radiation damage methods, biological dating techniques, and magnetic dating, and applications in environmental sciences, archaeology and physical anthropology. Mr. Berger

GROUP IV. REGIONS

180. North America. Lecture, four hours. Prerequisites: courses 1, 3, or equivalent, or upper division standing. Delimitation and analysis of the principal geographic regions of the United States and Canada. Mr. McKnight, Mr. Nelson

181. Middle America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Middle America and of the contemporary economic and cultural geography of Mexico and the countries of Central America and the West Indies. Mr. Bennett, Mr. Bruman

182A. Spanish South America. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Spanish South America and of the contemporary economic and cultural geography of the individual Spanish-speaking countries. Mr. Bruman

182B. Brazil. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of the geographic factors, physical and cultural, that are basic to an understanding of the historical development of Portuguese South America and of the contemporary economic and cultural geography of Brazil. Mr. Bruman

183. Europe. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of geographic conditions and their relation to economic, social and political problems in Europe. Mr. Kostanick, Mr. Thrower

184. Soviet Union. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A study of geographic conditions and their relation to economic, social, and political problems in the Soviet Union. Mr. Kostanick

185. South and South East Asia. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A regional synthesis with varying emphases upon the people of South or Southeast Asia in their physical, biotic, and cultural environment and its dynamic transformation. Consult department about term emphasis. The Staff

186. Contemporary China. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A systematic geographic analysis of the elements of landscape, resources, population, and socio-economic characteristics of the People's Republic of China. The course goal is comprehension of the dynamics that have led to China's major role in the East Asian and international scene, with special attention given to China-Japan and Sino-American relations and their geographic bases. Mr. Salter

187. Middle East. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the economic, social, and political geography of the area extending from Iran to Morocco and from Turkey to Sudan. Emphasis on geographical themes and problems during historical and modern times. Mr. Hale

188. Northern Africa. Lecture, three hours; reading period, one hour. Prerequisites: courses 1, 3, or equivalent, or upper division standing. An analysis of the economic, social, and political geography of the area including Mediterranean Africa, the Sahara, the Sudanic belt, and the eastern Horn. Emphasis on geographical themes and problems during historical and modern times. Mr. Hale, Mr. Thomas

189. Middle and Southern Africa. Lecture, four hours. Prerequisites: courses 1, 3, or equivalent, or upper division standing. The regions of Africa south of the Sahara (middle and south Africa) in terms of physical features, human settlement, economic production, and political patterns. Mr. Thomas

190. Australasia. Lecture, four hours. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A regional synthesis of the physical and cultural features which characterize Australia, New Zealand, and the islands of the South Pacific. Mr. McKnight

191. California. Lecture, four hours. Prerequisites: courses 1, 3, or equivalent, or upper division standing. A systematic and regional treatment of the geography of California including the physical, cultural, and economic aspects and detailed studies of the various regions. Mr. Logan, Mr. McKnight

UNGROUPED

196. Senior Thesis in Ecosystems Analysis. Study schedule to be arranged individually. Prerequisites: courses 129, 162 or 163, and senior standing. Preparation and data collection and analysis for a senior thesis under the guidance and assistance of a faculty sponsor. The Staff

199. Special Study. (½ to 2 courses) Study schedule to be arranged individually with the instructor. Prerequisites: senior standing and consent of instructor. The Staff

199HA-199HB. Honors in Geography: I & II. Study schedule to be arranged individually with instructors. Prerequisites: to be eligible a student must have completed at least five (5) upper division courses in geography, have attained a 3.5 GPA for such work, and have a 3.25 overall GPA. 199HA will be an independent study course taught by a team of two faculty members who will assist an enrolled student with bibliographic research and/or field research into a topic of mutual interest to the student and the faculty members. Successful completion of 199HA will entail the preparation of a detailed bibliography and outline for the writing of a substantial paper during the course of 199HB. The two faculty members will evaluate the bibliographic and/or field preparation of the student in 199HA. If that work is determined to be of A quality, the student will be allowed to continue in the Honor's program. If that work is B or below, credit will be awarded to the student, but he or she will not be permitted to continue in the Honor's program. 199HB will be devoted to the writing of the substantial paper researched and outlined in 199HA. The two faculty members will evaluate the paper. If the paper is determined to be an A, the student will graduate with Honors in Geography. If the paper is determined to be a B or lower, credit will be given the student, but there will be no Honors.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

GEOLOGY

(Renamed to Earth and Space Sciences.)

(Department Office, 3806 Geology Building)

GEOPHYSICS AND PLANETARY PHYSICS

(Institute Office, 3871 Slichter Hall)

Undergraduate Study

Undergraduate students with an interest in graduate study in Geophysics are advised to complete a major in physics, mathematics or chemistry. Attention is also drawn to opportunities to complete an undergraduate course of studies in Geophysics and Space Physics and in Applied Geophysics. For information concerning these programs consult the catalog listings for the Department of Earth and Space Sciences.

For information on graduate programs in this department consult the Graduate Catalog.

Upper Division Courses

M130. Isotope Geochemistry. (Same as Earth and Space Sciences M130.) Lecture, three hours; discussion, one hour. Prerequisites: upper division standing in physical or biological sciences and consent of instructor. Theoretical aspects of geochronology, particularly Carbon-14 dating. Application of radioisotopes to the hydrologic cycle and to atmospheric circulation. Stable isotope distribution in nature. Exchange mechanisms and their applications to paleotemperatures, hydrology, mineral formation and origin of biological deposits. (Alternates yearly with course M131). Mr. Kaplan (W)

M131. Geochemistry. (Same as Earth and Space Sciences M131.) Lecture, three hours; discussion, one hour. Prerequisites: junior or senior standing in chemistry, physics, or earth and space science. Origin and abundance of the elements in the earth, oceans, and atmosphere; chemistry of the earth's interior, phase transformations at high pressure and temperature. (Alternates yearly with course M130).

M136A. Geophysical Exploration. (Same as Earth and Space Sciences M136A.) Lecture, three hours. Prerequisite: Physics 6A, 6B, 6C or 8A, 8B, 8C, Math 31A, 31B, 32A, and 32B completed or consent of the instructor. Principles and techniques of gravimetric, seismic, magnetic, and other geophysical methods of exploration for ores, petroleum, and other economic minerals. Mr. Jackson (F)

M136B. Geophysical Exploration. (Same as Earth and Space Sciences M136B.) Prerequisite: Physics 6ABC, or 8ABC, Math 33A completed or consent of instructor. Principles and techniques of exploration for mineral deposits using natural and artificial electric and magnetic fields. Methods covered include self potential, induced polarization, electrical, tellurics, electromagnetic, magnetotellurics. Mr. McPherron (W)

GEOPHYSICS AND SPACE PHYSICS

(Renamed to Earth and Space Sciences.)

GERMANIC LANGUAGES

(Department Office, 310 Royce Hall)

Ehrhard Bahr, Ph.D., *Professor of German.*
Franz H. Bäuml, Ph.D., *Professor of German.*
Wolfgang Nehring, Ph.D., *Professor of German.*
Eli Sobel, Ph.D., *Professor of German.*
Hans Wagener, Ph.D., *Professor of German (Chairman of the Department).*

NOTE: For key to symbols, see pages 65 and 66

Donald J. Ward, Ph.D., *Professor of German and Folklore.*
Terence H. Wilbur, Ph.D., *Professor of Germanic Linguistics and Philology.*
Gustave Otto Arlt, Ph.D., LL.D., *Emeritus Professor of German.*
Carl William Hagge, Ph.D., *Emeritus Professor of German.*
Wayland D. Hand, Ph.D., *Emeritus Professor of German and Folklore.*
William J. Mulloy, Ph.D., *Emeritus Professor of German.*
Victor A. Oswald, Jr., Ph.D., *Emeritus Professor of German.*
Vern W. Robinson, Ph.D., *Emeritus Associate Professor of German.*
Erik Wahlgren, Ph.D., *Emeritus Professor of Scandinavian and Germanic Languages.*
Alexander Stephan, Ph.D., *Associate Professor of German.*
Janet R. Hadda, Ph.D., *Associate Professor of Yiddish.*
Robert S. Kirsner, Ph.D., *Associate Professor of Dutch and Afrikaans.*
Dieter Jedan, Ph.D., *Assistant Professor of German.*
T. Craig Christy, Ph.D., *Assistant Professor of Germanic Linguistics and Philology.*
Kathleen Komar, Ph.D., *Assistant Professor of German and Comparative Literature.*

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Marianna D. Birnbaum, Ph.D., *Adjunct Associate Professor of Hungarian.*
Stephanie Lombardi, Ph.D., *Emeritus Lecturer in German.*

Preparation for the Major in German

Required: courses 1, 2, 3, 4, 5, 6, or their equivalents.

The Major in German

Fifteen upper division courses offered by the department are required for the major in German: 100A or 100B or 100C, 108A, 108B, 129; four courses chosen from among 100A or 100B or 100C (whichever was not taken to satisfy the first listed requirement), 101A, 101B, 101C, 121H, 128, 134; three courses chosen from among 103, 105, 106, 107, 117; four courses chosen from among 121I, 122, 123, 124, 126, 127, 130, 132.

German undergraduate majors with secondary interests in other fields such as Folklore, History, Linguistics, Music, Philosophy, and Theater Arts, may arrange to pursue studies in those areas. Such students should consult with the departmental undergraduate advisors.

Lower Division Courses

No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition. Prerequisites for lower division courses are listed under the course descriptions. Students with demonstrated preparation may be permitted a more advanced program by the Department, or such students may be transferred to a more advanced course on recommendation of the instructor.

1. Elementary German. Lecture, five hours per week; laboratory, one hour. Not available for academic credit for those students who have completed more than one year of high school German or the equivalent. The student will, however, be credited with four units toward their minimum progress requirement. Mr. Jedan

1G. Elementary German for Graduate Students. (No credit) Lecture, four hours per week. To provide preparation for Graduate Division foreign language reading requirement. The Staff

2. Elementary German. Lecture, five hours per week; laboratory, one hour. Prerequisite: course 1. Not available for academic credit for those students who have completed two years of high school German or the equivalent. The student will, however, be credited with four units toward their minimum progress requirement. Mr. Jedan

2G. Elementary German for Graduate Students. (No credit) Continuation of course 1G. The Staff

2R. Elementary German for Reading Knowledge. Prerequisite: course 1. This course will continue the study of the German language and guide the student to an acquisition of basic reading skills. Mr. Jedan

3. Elementary German. Lecture, five hours per week; laboratory, one hour. Prerequisite: course 2 or two years of high school German. Mr. Jedan

3R. Elementary German for Reading Knowledge. Prerequisite: course 2, 2R, or 2 years of high school German. This course will complete the study of the German language and introduce the student to readings in the various humanistic and scientific disciplines. Conducted in groups according to field of study. Mr. Jedan

4. Intermediate German. Lecture, five hours per week. Prerequisite: course 3 or three years of high school German. Mr. Jedan

5. Intermediate German. Lecture, four hours per week. Prerequisite: course 4, or four years of high school German. Mr. Jedan

6. Intermediate German. Lecture, four hours per week. Prerequisite: course 5 or the equivalent. Mr. Jedan

12. German Conversation. (½ course) Lecture, two hours per week. Prerequisite: course 1 or one year of high school German. This course will utilize German language teaching films; students will have the opportunity to practice spoken German in small groups. Mr. Jedan

14. Intermediate Conversation. (½ course) Lecture, two hours per week. Prerequisite: course 3 or three years of high school German. Students will have the opportunity to practice spoken German in small groups. Mr. Jedan

95. Freshman Seminar. Course of variable content limited to topics of current interest; to be offered whenever a member of the staff is available. The Staff

Upper Division Courses

The prerequisite for all upper division courses except 100A, 100B, 100C, 121A, 121B, 121C, 121D, 121E, 121F, 121G, 121H, 121I, 121J, is course 6 or the equivalent.

Courses Open to Majors and Non-majors, But Not to Graduate Students in German

100A. German Civilization and Culture before 1700. A study of the development of German civilization and institutions from the earliest times to 1700. Study of German culture as represented in its literature, art, music, and architecture before 1700. Students who have taken previous course 100 may receive credit for one of the following courses only: either 100A, 100B, 100C. Mr. Bäuml, Mr. Sobel, Mr. Wagener

100B. Modern German Civilization and Culture from 1700-1919. A study of the development of German civilization and institutions from 1700 to 1919. Study of German culture as represented in its literature, art, music, and architecture from 1700-1919. Students who have taken previous course 100 may receive credit for one of the following courses only; either 100A, 100B, or 100C. Mr. Sobel, Mr. Wagener

100C. German Civilization and Culture in the 20th Century. A study of the development of German culture and institutions from 1919 to the present emphasizing developments in literature, the arts, and architecture. Mr. Stephan

101A. Introduction to German Poetry. Close analysis of representative examples of German lyric poetry from early as well as modern literary periods, including a systematic consideration of poetic conventions and forms, diction, tone, imagery, symbolism and metrics. Recommended to be taken at the beginning of literary studies. The Staff

101B. Introduction to German Drama. Analysis of selected examples of drama (e.g. tragedy, comedy, one-act-play, lyric drama, lyric theater, etc.), including a systematic introduction to dramatic forms, techniques, and theories. Texts will be selected from modern literature as well as from other periods. Recommended to be taken at the beginning of literary studies. Mr. Bahr, Mr. Nehring

101C. Introduction to German Narrative Prose. Analysis of significant examples of narrative prose (e.g. short story, novelle, novel, fairy tale, etc.), including a systematic introduction to narrative forms, techniques, styles. Texts will be selected from modern literature as well as from older periods. Recommended to be taken at the beginning of literary studies.. Ms. Komar, Mr. Nehring, Mr. Stephan

103. Introduction to German Enlightenment, Sturm und Drang, and Classicism. Reading and discussion of representative works by Lessing, Goethe, and Schiller; their historical and social background, their relationship to music (Bach, Mozart) and philosophy (Leibniz, Kant) as well as their place in the history of ideas. Mr. Bahr

105. Introduction to 19th Century German Literature. Reading and analysis of selected works from Romanticism to Realism. Ms. Komar, Mr. Nehring

106. Introduction to Modern Literature. Analysis of selected works of the period from 1890 to 1945. Mr. Wagener

107. Introduction to Contemporary Literature. Analysis of selected works of the period 1945 to the present time. Mr. Stephan

108A. Composition and Conversation. Composition and conversation. Mr. Christy, Mr. Jedan

108B. Composition and Conversation. Composition and conversation. Prerequisite: course 108A or consent of instructor. Mr. Christy, Mr. Jedan

117. Language and Linguistics. Prerequisites: courses 100A or 100B and 108A. Introduction to the historical development of the German language; theories and methods of linguistics. Mr. Christy, Mr. Wilbur

121A. Older German Literature in Translation. Analyses in English of works of German literature from the Medieval period to Baroque. No credit toward completion of the major in German. Mr. Bäuml, Mr. Sobel, Mr. Ward

121B. Classical German Literature in Translation. Analyses in English of works of the period of Classicism. No credit toward completion of the major in German. Mr. Bahr

121C. 19th Century German Literature in Translation. Readings and lectures in English on selected 19th century authors. No credit toward completion of the major in German. Ms. Komar, Mr. Nehring

121D. Modern German Literature in Translation—Narrative Prose I. Readings, lectures and discussions in English on selected modern authors, including Mann, Kafka, Hesse and Rilke. No credit toward completion of the major in German. Mr. Nehring, Mr. Stephan, Mr. Wagener

121E. Modern German Literature in Translation—Narrative Prose II. Readings, lectures and discussions in English on post-1945 narrative prose. No credit toward completion of the major in German. Mr. Stephan, Mr. Wagener

121F. Modern German Literature in Translation—Drama and Lyrics. Readings, lectures and discussions in English on modern German drama and lyric poetry. No credit toward completion of the major in German. Mr. Stephan, Mr. Wagener

121G. Modern German Jewish Literature in Translation. Readings, lectures in English on selected authors, including Mendelssohn, Heine, Schnitzler, Kraus, Kafka, Feuchtwanger, Anne Frank, Nelly Sachs. No credit toward completion of the major in German. Ms. Hadda

121J. The Faust Tradition from the Renaissance to the Modern Age. Readings and discussions in English of the Faust theme and Faust tradition in European Literature and intellectual history, including the chapbook of *Doctor Faustus*, Christopher Marlowe's and Goethe's Faust dramas as well as Thomas Mann's novel *Doctor Faustus: The Life of the German Composer Adrian Leverkühn.* No credit toward completion of the major in German. Mr. Bahr

Courses open to Graduate Students in German

121H. Special Problems in Literature. Prerequisite: upper division standing in any department. Varying topics of current importance and immediate relevance to literary study. The course is designed to introduce the student to contemporary trends in literary study and is predominantly concerned with topics related to German literature and criticism. Lectures in English. The Staff

121I. The German Film in Cultural Context. A survey of various aspects of the German film in relationship to literary, artistic, and political directions of the times, with emphasis on the film as a separate mode of artistic expression. Mr. Stephan

122. Studies in German Literature Before 1750. Prerequisites: three upper division courses, including courses 100 or 100A, or consent of the instructor. Readings and analysis of major works from the Middle Ages to the Baroque. The Staff

123. Goethe. Prerequisites: courses 100A or 100B, and 103 or consent of instructor. Reading and discussion of representative works (except *Faust)* from Goethe's early period to his maturity and old age. Mr. Bahr

124. Romanticism. Prerequisites: courses 100A or 100B, 105, or consent of the instructor. Reading and analysis of major works of the Romantic period. Authors included are Tieck, Novalis, E.T.A. Hoffmann, and Eichendorff. Ms. Komar, Mr. Nehring

126. Advanced Study in Modern Literature. Prerequisites: courses 100A or 100B, 106, or consent of the instructor. Reading and analysis of a wide range of the literature from 1890-1945. Mr. Wagener

127. Advanced Study in Contemporary Literature. Prerequisites: courses 100A or 100B, 107, or consent of the instructor. Analysis of a wide range of German literature from 1945 to the present. Mr. Stephan

128. Advanced Composition, Grammar and Conversation. Prerequisites: course 108A and 108B or consent of the instructor. Grammar, composition, conversation. Mr. Christy, Mr. Jedan

129. German Phonetics. Study of the articulatory basis of the sounds of German and practice in standard pronunciation. Mr. Christy

130. Methodology of Literary Criticism. Prerequisites: senior standing or consent of the instructor. Introduction to the methodology of literary criticism, including a systematic study of motif, topos, plot, space and time, semantics, stylistics, rhetoric, metrics, imagery (emblem, metaphor, allegory, symbol), structural elements (act, stanza, book, flash-back, anticipation, interior monologue), narrator and reader's response, humor and irony, hermeneutics. Mr. Bahr, Mr. Bäuml

132. Goethe's *Faust.* Prerequisites: courses 100A or 100B, 123, or consent of the instructor. Detailed interpretation of Goethe's *Faust,* Parts I and II, together with more general consideration of other treatments of the Faust theme in European literature. Mr. Bahr

134. German Folklore. A survey of the various genres of German folklore. Mr. Ward

195. Senior Thesis Course. Extensive reading, research, and writing of senior thesis. Course may be used for writing Honors thesis. The Staff

199A-199ZZ. Special Studies. (½ or 1 course) Prerequisite: consent of the instructor. To be arranged with the member of the faculty who will direct the study. The member of the faculty directing the study will be identified by the same two-letter code used to identify his 599 research course. A course of independent study for students who desire more intensive or specialized investigation of material covered in a regular course, and who present such a course as a prerequisite. The Staff

Dutch-Flemish and Afrikaans

101A. Elementary Dutch-Flemish. Mr. Kirsner

101B. Elementary Afrikaans. Mr. Kirsner

101C. Intermediate Dutch-Flemish. Prerequisite: course 101A or equivalent. Mr. Kirsner

101D. Intermediate Readings in Dutch-Flemish. Prerequisite: course 101C or equivalent. Mr. Kirsner

101E. Intermediate Readings in Afrikaans. Prerequisite: course 101B. Mr. Kirsner

112. Dutch, Flemish, Afrikaans Literature in Translation. Readings and analysis of selected works in translation from Dutch, Flemish, and Afrikaans Literature. Mr. Kirsner

120. Introduction to Dutch Studies. Prerequisite: consent of instructor. Brief review of Dutch grammar. Reading and discussion of selections from contemporary Dutch literature, contemporary Dutch literary criticism, and modern Dutch linguistics. Emphasis is on developing reading skill and on acquiring familiarity with and an appreciation of the scope of twentieth century Nederlandistiek. Mr. Kirsner

131. Introduction to Modern Dutch Literature. Prerequisite: Either Dutch 101D or 120. Analysis of selected works of the literature of the Netherlands and Flemish Belgium, from the symbolist Beweging van Tachtig of the 1880's to the present. Mr. Kirsner

135. Introduction to Afrikaans Literature. Prerequisite: Dutch 101E or equivalent. Analysis of selected works, from the founding of the Genootskap van Regte Afrikaners in 1875 to the present time. Mr. Kirsner

199. Special Studies in Dutch-Flemish and Afrikaans. (½ to 1 course) Mr. Kirsner

Hungarian

101A. Elementary Hungarian. Introduction to grammar and reading exercises, emphasis on the spoken language. Ms. Birnbaum

101B. Elementary Hungarian. Prerequisite: course 101A or the equivalent. Grammatical exercises, conversation, and reading of texts. Ms. Birnbaum

101C. Elementary Hungarian. Prerequisite: course 101B or the equivalent. Conversation and readings in literary texts. Ms. Birnbaum

101D. Advanced Hungarian. Prerequisites: courses 101A, 101B and 101C completed or equivalent. Grammar, conversation, vocabulary building. Ms. Birnbaum

101E. Advanced Hungarian. Prerequisites: courses 101A-101D completed or equivalent. Conversation, reading and discussion of literary text. Ms. Birnbaum

101F. Advanced Hungarian. Prerequisites: courses 101A-101E completed, or equivalent. Conversation, and reviewing Hungarian grammar from a typological point of view. Ms. Birnbaum

120A-120B. Readings in Hungarian. (Formerly numbered Finno-Ugric 153A-153B.) Prerequisite: course 101C or the equivalent. Large selections of Hungarian prose and poetry read in the original. Ms. Birnbaum

120C. Readings in Hungarian Literature. Prerequisite: reading knowledge in Hungarian. Course 101C or equivalent completed. Large selections of Hungarian prose and poetry read in the original. Discussion will be conducted in Hungarian. Ms. Birnbaum

121A-121B. Survey of Hungarian Literature in Translation. (Formerly numbered 158A-158B.) Intended for students in general and comparative literature as well as students interested in Finno-Ugric studies. Main trends and contacts with other literatures are surveyed. Ms. Birnbaum

130. Hungarian Civilization and Culture. A study of Hungarian civilization and institutions from the earliest times to the present. Study of Hungarian culture as represented in its arts (literature, fine arts, music). Ms. Birnbaum

M135. Hungarian Folklore and Mythology. (Same as Folklore M128.) A general course for the student in folklore and mythology, with emphasis on types of folklore and varieties of folklore research. Ms. Birnbaum

M136. Folklore and Mythology of the Ugric Peoples. (Same as Folklore M129.) Survey of the traditions of the smaller Ugric nationalities (Voguls, Ostyaks, etc.). Ms. Birnbaum

199. Special Studies in Hungarian. (½ to 1 course) Prerequisite: consent of the instructor is required. A course of independent study for students who desire more intensive or specialized investigation of material covered in a regular course, and who present such a course as a prerequisite. Ms. Birnbaum

Yiddish

1. Elementary Yiddish. Lecture, five hours per week. Introduction to grammar; instruction in listening, speaking, reading and writing skills. Ms. Hadda

2. Elementary Yiddish. Lecture, five hours per week. Prerequisite: course 1 or equivalent. Ms. Hadda

3. Elementary Yiddish. Lecture, five hours per week. Prerequisite: course 2 or equivalent. Ms. Hadda

104. Intermediate Yiddish. Lecture, five hours per week. Prerequisite: course 3 or equivalent. Grammatical exercises, reading and linguistic analysis of texts, conversation. Ms. Hadda

121A. 20th Century Yiddish Poetry in English Translation. Prerequisite: upper division standing or consent of the instructor. Readings in 20th Century Yiddish Poetry and drama. Lectures, discussions. Ms. Hadda

121B. 20th Century Yiddish Prose and Drama in English Translation. Prerequisite: upper division standing or consent of the instructor. Readings in 20th Century Yiddish Prose. Lectures, discussions. Ms. Hadda

131A. Modern Yiddish Poetry. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish poetry. Lectures, discussions. Ms. Hadda

131B. Modern Yiddish Prose and Drama. Prerequisite: course 104 or consent of instructor. Readings in modern Yiddish prose and drama. Lectures, discussion. Ms. Hadda

199. Special Studies in Yiddish. (½ to 1 course) Prerequisite: consent of the instructor. A course of independent study for students who desire more intensive or specialized investigation of material covered in a regular course, and who present such a course as a prerequisite. Ms. Hadda

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

SCANDINAVIAN LANGUAGES

Kenneth G. Chapman, Ph.D., *Professor of Scandinavian Languages.*

Ross P. Shideler, Ph.D., *Professor of Scandinavian Languages and Comparative Literature.*

Erik Wahlgren, Ph.D., *Emeritus Professor of Scandinavian and Germanic Languages.*

James R. Massengale, Ph.D., *Associate Professor of Scandinavian Languages (Vice Chairman of the Department).*

Mary Kay Norseng, Ph.D., *Assistant Professor of Scandinavian Languages.*

Jesse L. Byock, Ph.D., *Assistant Professor of Scandinavian Languages.*

NOTE: For key to symbols, see pages 65 and 66

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Inkeri A. Rank, M.A., M.Ed., *Lecturer in Finnish Studies.*
Jules L. Zentner, Ph.D., *Lecturer in Scandinavian Languages.*

Preparation for the Major

Required: courses 1, 2, 3, 4, 5, or 11, 12, 13, 14, 15, or 21, 22, 23, 24, 25 and 30, or their equivalents.

The Undergraduate Major in Scandinavian

Nine upper division courses in Scandinavian, including courses 105 and 106, or 110 for two quarters, and 141, 142, and 143. As an additional requirement, three upper division courses in Scandinavian or a related field must be taken. These three courses must be approved in advance by the undergraduate adviser. It is recommended that students who plan to do graduate work in Scandinavian take German 1 through 6.

Lower Division Courses

No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition. Prerequisites for lower division courses are listed under the course descriptions. Students with demonstrated preparation may be permitted a more advanced program by the Department, or such students may be transferred to a more advanced course on recommendation of the instructor.

Admission to Language Courses in the Scandinavian Section

Native speakers of Norwegian, Swedish, or Danish may not enroll in any language course (including courses 105, 106, and 110) in the Scandinavian Section, except by petition in writing to the Section. Non-Scandinavian students with a knowledge of one of these Scandinavian languages may not take courses in the others except by petition in writing. These petitions must include a description of the student's linguistic background and his reason for wanting to take the language course in question.

1. Elementary Swedish. Mr. Shideler in charge

2. Elementary Swedish. Prerequisite: course 1 or equivalent. Mr. Shideler in charge

3. Elementary Swedish. Prerequisite: course 2 or equivalent. Mr. Shideler in charge

4. Intermediate Swedish. Prerequisite: course 3 or equivalent. Mr. Shideler in charge

5. Intermediate Swedish. Prerequisite: course 4 or equivalent. Mr. Shideler in charge

11. Elementary Norwegian. Mr. Chapman, Ms. Norseng

12. Elementary Norwegian. Prerequisite: course 11 or equivalent. Mr. Chapman, Ms. Norseng

13. Elementary Norwegian. Prerequisite: course 12 or equivalent. Mr. Chapman, Ms. Norseng

14. Intermediate Norwegian. Prerequisite: course 13 or equivalent. Mr. Chapman, Ms. Norseng

15. Intermediate Norwegian. Prerequisite: course 14 or equivalent. Mr. Chapman, Ms. Norseng

21. Elementary Danish. Mr. Massengale

22. Elementary Danish. Prerequisite: course 21, or equivalent. Mr. Massengale

23. Elementary Danish. Prerequisite: course 22, or equivalent. Mr. Massengale

24. Intermediate Danish. Prerequisite: course 23 or equivalent. Mr. Massengale

25. Intermediate Danish. Prerequisite: course 24 or equivalent. Mr. Massengale

30. Intermediate Danish, Norwegian and Swedish. Prerequisite: either course 5, 15, or 25, or the equivalent. Readings in Danish, Norwegian and Swedish. Written and oral exercises. Majors as well as nonmajors may take this course on a P/NP or S/U basis. The Staff

40. The Heroic Journey in Northern Myth and Legend. Prerequisites: none. Introductory survey to Norse myth, legend, and epic. Mr. Byock

Upper Division Courses

105. Advanced Swedish. Prerequisite: course 30 or equivalent. Readings, composition, and conversation. Conducted in Swedish. The Staff

106. Advanced Swedish. Prerequisite: course 105 or equivalent. Readings, composition, and conversation. Conducted in Swedish. The Staff

110. Advanced Danish and Norwegian. Prerequisite: course 30 or equivalent. Advanced reading, composition, and conversation in Danish and Norwegian. May be taken twice for credit. The Staff

M123A. Finnish Folklore and Mythology. (Same as Folklore M123A.) The methods and results of Finnish folklore studies and the mythic traditions of the Finns. Special attention is paid to the oral epic, beliefs and legends. Mrs. Rank

M123B. Finnish Folksong and Ballad. (Same as Folklore M123B.) Course M123A is not prerequisite to M123B. A survey of Finnish balladry and folksong, with attention to historical development, ethnic background, and poetic and musical values. Mrs. Rank

M125. Folklore and Mythology of the Lapps. (Same as Folklore M125.) Survey of Lappish beliefs, customs, and various genres of oral tradition including tales, legends, songs and music. Attention is also paid to the material manifestations of Lappish culture: arts and crafts, textiles, costume, folk technology. Mrs. Rank

130. Elementary Finnish. Introduction to pronunciation and grammar. Mrs. Rank

131. Intermediate Finnish. Prerequisite: course 130 or equivalent. Grammatical exercises and readings. Mrs. Rank

132. Advanced Finnish. Prerequisite: course 131 or equivalent. Readings, composition and conversation. Mrs. Rank

138. Survey of Finnish Literature. Intended for students in general and comparative literature as well as students interested in Finnish studies. Readings and discussions of selected works from the literature of Finland in the 19th and 20th centuries. Conducted in English; no knowledge of Finnish required. Mrs. Rank

141. Viking Civilization and Literature. Readings and discussions of selected works from the Old Icelandic sagas, the Eddas, and early ballad literature. Conducted in English, and no knowledge of a Scandinavian language is required. The Staff

142. Scandinavian Literature of the 18th and 19th Centuries. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected works from the literature of Scandinavia in the 18th and 19th centuries. The Staff

143. Modern Scandinavian Literature. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected works of modern Scandinavian literature. The Staff

144. Ibsen. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected plays by Henrik Ibsen. Ms. Norseng

145. Strindberg. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected plays by August Strindberg. Concurrent scheduling with 252. Mr. Massengale

146. Kierkegaard. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected works by Søren Kierkegaard. Concurrent scheduling with 253. Mr. Massengale

147. Hamsun. Prerequisite for Scandinavian majors: course 30 or equivalent. For nonmajors: no knowledge of a Scandinavian language is required. Readings and discussions of selected works by Knut Hamsun. Concurrent scheduling with 254. Ms. Norseng

151. Elementary Old Icelandic. Prerequisite: at least one year of a modern Scandinavian language or consent of the instructor. Grammar and readings of prose literature. The Staff

152. Intermediate Old Icelandic. Prerequisite: course 151. Readings of Old Icelandic prose and poetry. The Staff

153. Modern Icelandic. Prerequisite: course 152. Grammar, readings, composition, and conversation. The Staff

180. Literature and Scandinavian Society. Discussion of selected aspects of Scandinavian society based on readings of the contemporary literature as well as other documentary material. No knowledge of a Scandinavian language is required. May be repeated for credit when Undergraduate Adviser determines that course content is completely different. Concurrent scheduling with 263. The Staff

190. Honors Course in Scandinavian. Prerequisites: senior standing with a minimum of 3.0 grade-point average in the major and consent of the honors committee of the Scandinavian section. Intensive study of a selected special topic in Scandinavian. Discussions, oral and written reports. The Staff

199A-199ZZ. Special Studies in Scandinavian. (½ or 1 course) Prerequisites: senior or graduate standing, and consent of the instructor. To be arranged with the member of the faculty who will direct the study. The member of the faculty directing the study will be identified by the same two-letter code used to identify his 599 research course. A course of independent study designed for graduates or senior undergraduates who desire more intensive or specialized investigation of material covered in a regular course, and who present such a course as a prerequisite.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

HISTORY

(Department Office, 6265 Bunche Hall)

Robert L. Benson, Ph.D., *Professor of History.*
Kees W. Bolle, Ph.D., *Professor of History.*
John G. Burke, Ph.D., *Professor of History.*
E. Bradford Burns, Ph.D., *Professor of History.*
Robert I. Burns, S.J., Ph.D., *Professor of History.*
Robert N. Burr, Ph.D., *Professor of History.*
Mortimer H. Chambers, Jr., Ph.D., *Professor of History.*
Claus-Peter Clasen, Ph.D., *Professor of History.*
Stanley Coben, Ph.D., *Professor of History.*
Robert Dallek, Ph.D., *Professor of History.*
Christopher Ehret, Ph.D., *Professor of History.*
Amos Funkenstein, Ph.D., *Professor of History.*
John S. Galbraith, Ph.D., *Professor of History.*
Frank O. Gatell, Ph.D., *Professor of History.*
Richard Hovannisian, Ph.D., *Professor of History.*
Daniel W. Howe, Ph.D., *Professor of History (Vice-Chairman of the Department).*
Norris C. Hundley, Ph.D., *Professor of History.*
Nikki Keddie, Ph.D., *Professor of History.*
Barisa Krekic, Ph.D., *Professor of History.*
John H.M. Laslett, D.Phil., *Professor of History.*
James Lockhart, Ph.D., *Professor of History.*
Peter Loewenberg, Ph.D., *Professor of History.*
Andrew Lossky, Ph.D., *Professor of History.*
Afaf Marsot, D.Phil., *Professor of History.*
Lauro R. Martines, Ph.D., *Professor of History.*
D. C. Moore, Ph.D., *Professor of History.*
Gary B. Nash, Ph.D., *Professor of History.*
Boniface I. Obichere, D.Phil., *Professor of History.*
Merrick Posnansky, Ph.D., *Professor of History.*
Hans J. Rogger, Ph.D., *Professor of History (Chair of the Department).*

Richard H. Rouse, Ph.D., *Professor of History.*
Damodar R. SarDesai, Ph.D., *Professor of History.*
Alexander P. Saxton, Ph.D., *Professor of History.*
Stanford J. Shaw, Ph.D., *Professor of History.*
Speros Vryonis, Jr., Ph.D., *Professor of History.*
Eugen Weber, M.Litt., *Professor of History.*
James W. Wilkie, Ph.D., *Professor of History.*
Robert Wohl, Ph.D., *Professor of History.*
Stanley A. Wolpert, Ph.D., *Professor of History.*
Milton Anastos, Ph.D., *Emeritus Professor of Byzantine Greek and History.*
Eugene N. Anderson, Ph.D., *Emeritus Professor of History.*
Fawn M. Brodie, M.A., *Emeritus Professor of History.*
Truesdell S. Brown, Ph.D., *Emeritus Professor of History.*
John W. Caughey, Ph.D., *Emeritus Professor of History.*
Brainerd Dyer, Ph.D., *Emeritus Professor of History.*
Raymond H. Fisher, Ph.D., *Emeritus Professor of History.*
Yu-Shan Han, Ph.D., *Emeritus Professor of History.*
Jere C. King, Ph.D., *Emeritus Professor of History.*
Gerhart B. Ladner, Ph.D., *Emeritus Professor of History.*
Theodore Saloutos, Ph.D., *Emeritus Professor of History.*
Lynn White, jr., Ph.D., *Emeritus Professor of History (University Professor).*
Robert A. Wilson, Ph.D., *Emeritus Professor of History.*
Edward A. Alpers, Ph.D., *Associate Professor of History.*
Robert P. Brenner, Ph.D., *Associate Professor of History.*
David M. Farquhar, Ph.D., *Associate Professor of History.*
Juan Gómez-Quiñones, Ph.D., *Associate Professor of History.*
Thomas S. Hines, Ph.D., *Associate Professor of History.*
Philip C. Huang, Ph.D., *Associate Professor of History.*
Michael O. Jones, Ph.D., *Associate Professor of History.*
Temma Kaplan, Ph.D., *Associate Professor of History.*
Ronald J. Mellor, Ph.D., *Associate Professor of History.*
Fred G. Notehelfer, Ph.D., *Associate Professor of History.*
Peter H. Reill, Ph.D., *Associate Professor of History.*
Kathryn Kish Sklar, Ph.D., *Associate Professor of History.*
Geoffrey W. Symcox, Ph.D., *Associate Professor of History.*
Richard Weiss, Ph.D., *Associate Professor of History.*
Robert S. Westman, Ph.D., *Associate Professor of History.*
Agnes A. Aidoo, Ph.D., *Assistant Professor of History.*
Robert A. Hill, M.Sc., *Assistant Professor of History.*
Eric H. Monkkonen, Ph.D., *Assistant Professor of History.*
Michael G. Morony, Ph.D., *Assistant Professor of History.*
Kenneth M. Morrison, Ph.D., *Assistant Professor of History.*
Armstead L. Robinson, Ph.D., *Assistant Professor of History.*
M. Norton Wise, Ph.D., *Assistant Professor of History.*
Mary A. Yeager, Ph.D., *Assistant Professor of History.*

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Amin Banani, Ph.D., *Professor of Persian and History.*
Giorgio Buccellati, Ph.D., *Professor of History and Near Eastern Languages.*
Robert G. Frank, Ph.D., *Associate Professor of History and Medical History/Anatomy.*
Albert Hoxie, M.A., *Senior Lecturer in History.*
Ludwig Lauerhass, Ph.D., *Lecturer in History and Librarian.*

The Undergraduate Program

The undergraduate program in history is designed to give students an insight into the world in which they live and the forces and events that have served to shape and mold that world. In its broadest sense the discipline of history provides a background for all other subjects and disciplines. Along more specific lines the goal of history is the classical goal of self-knowledge. History is therefore concerned with "why we are what we are" and "how we came to be where we are today." In this sense history is the study of the past of our own society and how it emerged out of the traditions that produced it. At the same time, self-knowledge for the student of history comes not only from self-discovery, but from a comparison of his/her own tradition and experience with those of others. It is only by studying the history of other civilizations and cultures that we can hope to gain perspective on our own. The purpose of historical study is therefore not only an understanding of our own past and our present self, but an understanding of, and empathy for, the cultures and civilizations of other peoples and other nations.

It is in keeping with these broad goals that the History Department's undergraduate major has been established. As listed below, the department's undergraduate program begins with a three quarter survey of Western Civilization and a two quarter study of United States history. For comparative purposes the students are asked to spend two quarters studying non-Western history. In addition they are required to devote one quarter to the study of historical methodology and philosophy. At the upper division level students are encouraged to develop their own problem consciousness and to follow their personal interests into whichever area they choose. The only further requirement at this level is a one-quarter colloquium and writing course which is designed to give the student some experience in formal historical discourse.

Students interested in careers in the field of law, teaching, public service, journalism, and a variety of other areas involving the social sciences will find the history major beneficial and rewarding.

Preparation for the Major, and Major

The History Department's undergraduate program consists of 16 courses in history (6 lower division: the Preparation for the Major; 10 upper division: the Major), and 4 courses in the social sciences outside the department. The following courses are required in the program:

1. History 1A-1B-1C. Western Civilization.

2. Two courses in U.S. History.

3. Two courses in Non-Western History from the same area (i.e. Latin America, Asia, Near and Middle East, Africa) or in Science and Technology. Candidates for the California Standard Teaching Credential may not choose Science and Technology to fulfill their Non-Western requirement.

4. History 99 (for Freshmen and Sophomores), History 101 (for Juniors and Seniors), or History 100 (no restriction by class).

5. History 197 (Undergraduate Seminar) or History 199 (Special Studies in History).

6. Four courses in the Social Sciences outside of History. (Must be taken for a letter grade.)

The requirements for U.S. and Non-Western History may be met with either upper or lower division courses. *Students are, however, reminded that normally only six lower division courses in history need to be included in their program.* This will generally mean that if they meet the U.S. History requirement at the lower division level they will have to meet the Non-Western requirement at the upper division level (or vice versa). If they choose to meet both requirements at the lower division level they will still be required to do 10 upper division courses to fulfill the upper division requirements of the Major. The Department recommends the following lower division courses to meet the U.S. History and Non-Western Requirements: History 6A-6B-6C (U.S. History); History 7A-7B (Political U.S.); History 8A-8B (Latin America); History 9A-9B-9C (Asia); History 9D plus one suitable upper division course (Near and Middle East); History 10A-10B (Africa); History 2A-2B-2C (Technology); History 3A-3B-3C (Science). If only one Non-Western course is taken in lower division, an appropriate upper division Non-Western course must be included in the major.

All history majors are required to take at least four courses in other departments in the division of social sciences, whether lower or upper division (anthropology, geography, economics, political science, sociology, psychology). *These courses may not be taken for "Pass/Not Pass" grades.* A one-quarter course from the History 6A-6B-6C (U.S. History) sequence may be applied to this requirement, provided the same quarter course is not used to satisfy any other requirement of the major.

Advanced Placement Credit in History. The College of Letters and Science allows ten quarter units towards the B.A. for each Advanced Placement Test in History. The History Department applies this credit to the Preparation of the History Major as follows: AP European History fulfills History 1C; AP American History fulfills the U.S. History requirement at the lower division level.

Only one course offered outside of the History Department will count as a Major course without petition: Medical History 107B, Historical Development of Medical Sciences.

Transfer students with deficiencies in lower division may by petition substitute appropriate upper division courses in history for the lower division requirements. See the departmental adviser.

There is no language requirement for the major; however, students wishing to take the honors program or planning to do graduate work in history are urged to pursue language study early in their undergraduate careers.

The Honors Major

The honors program in history is designed for history majors who are interested in carrying out a year-long independent research project that will culminate in an honors thesis. The program gives qualified students the opportunity of working closely with an individual professor in a supervised research and writing project. Students contemplating graduate work in history should find this program particularly beneficial and rewarding.

Qualifications: All history majors with a departmental grade point average of 3.5 or better are eligible for the honors program. Candidates for honors will be required to meet all normal requirements of the history major described in the preceding section. Honors majors are required to take a three-quarter honors sequence, History 199H-A-B-C, under the guidance of a sponsoring professor. These courses will count as three courses in the regular ten upper division course requirement that applies to all history majors.

Admission to the Program: Students desiring to enroll in the honors program should consult the History Department Undergraduate Adviser, normally before their junior year in order to fill out the required application form.

Lower Division Courses

1A-1B-1C. Introduction to Western Civilization. Lecture and discussion. A broad, historical study of major elements in the Western heritage from the world of the Greeks to that of the twentieth century, designed to further beginning students' general education, introduce them to ideas, attitudes, and institutions basic to Western civilization, and to acquaint them, through reading and critical discussion, with representative contemporary documents and writings of enduring interest. The Staff

2A-2B-2C. History of Technology from Antiquity to the Twentieth Century. Designed for students in the natural sciences, social sciences, and fine arts. It is a survey of the development of man's ability to understand more fully and to utilize more efficiently his natural environment, stressing technology's changing social, economic, scientific and cultural relationships. Mr. Burke

3A-3B-3C. Introduction to the History of Science.

3A. The Scientific Revolution. A survey of the beginnings of the physical sciences involving the transformation from Aristotelian to Newtonian cosmology, the mechanization of the natural world, the rise of experimental science, and the origin of scientific societies.
Mr. Burke, Mr. Westman, Mr. Wise

3B. The Physical Sciences since the Enlightenment. A broad survey of the development of ideas in classical and modern physical science since Newton. The unifying theme will be theories of matter, but more specifically Chemistry, Thermodynamics, Electromagnetic Theory of Light, Energy Conservation, Relativity, and Quantum Mechanics, will be discussed.
Mr. Burke, Mr. Wise

3C. The Biological Sciences, 1800-1955. A survey of the development of the biological sciences from the period of Bichat and Müller to the discovery of the double helix. Mr. Frank

4. Introduction to the History of Religions. A discussion of the various systems, ideas, and fashions of thought that have dominated western approaches to the religions of the world since Antiquity. The course surveys the development from classical Greek and early Christian theories to modern history with its discoveries of the religions of India, China, the ancient Near East, etc., and the problem of the encounter of various religions in the 19th and 20th centuries. Mr. Bolle

NOTE: For key to symbols, see pages 65 and 66

6A-6B-6C. History of the American Peoples. A survey of the American Peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change.
Mr. Nash, Mr. Saxton and Staff

6BH. History of the American Peoples. A survey of the American Peoples from the advent of aboriginal society to the present, emphasizing racial and ethnic interaction, industrialization, urbanization, and cultural change. Mr. Monkkonen

7A-7B. Survey of the Political History of the U.S. Lecture and discussion. A survey of the history of the U.S. from the Revolutionary Era to the present. Emphasis will be given to political developments, and to the social, cultural and economic bases of American politics. The courses are designed for students in the social sciences, and other departments, who desire a thorough grounding in American political culture. This sequence (or two quarters of History 6) is strongly recommended for history majors planning to take more advanced courses in U.S. history. Mr. Gatell, Mr. Howe, Mr. Saxton

8A. Latin America: Reform and Revolution. A general introduction to Latin America emphasizing those institutions from the past which have shaped the present and the struggle for change in the twentieth century. Movies and discussions complement the topical lectures. Mr. Burns and Staff

8B. Latin American Social History. The historical and contemporary perspective of the role of ordinary people in Latin American society. Each lecture-film session centers on a major Latin American movie illustrative of a theme in social history. May be taken independently of 8A.
Mr. Burns and Staff

9A-9D. Introduction to Asian Civilizations. (1 course each)

9A. India. An introductory survey for beginning students of the major cultural, social, and political ideas, traditions, and institutions of Indic civilization. Mr. Wolpert

9B. China. A survey from the Stone Age to the 20th century Revolution. Emphasis on socio-economic change, characteristic Chinese institutions, and modes of thought, and the role of imperialism in modern China. Mr. Farquhar

9C. Japan. A survey of Japanese history from earliest recorded times to the present with emphasis on the development of Japan as a cultural daughter of China. Attention will be given to the manner in which Chinese culture was Japanized and the aspects of Japanese civilization which became unique. The creation of the modern state in the last century and the impact of western civilization on Japanese culture will be treated. Mr. Notehelfer

9D. Near and Middle East. An introduction to the history of the Muslim world from the advent of Islam to the present day. Ms. Marsot

10A-10B. Introduction to the Civilizations of Africa. Explores African cultures on a thematic basis within a wider framework of political change over time. Intended for students with a general interest in Africa, but also strongly recommended for those intending to take upper division courses in African History.

M70. Survey of Mediaeval Greek Culture. (Same as Classics M70.) Classical roots and mediaeval manifestations of Byzantine civilization: political theory, Roman law, pagan critique of Christianity, literature, theology, and contribution to the Renaissance (including the discovery of America).
Mr. Dyck

99. Introduction to Historical Practice. Prerequisite: Restricted to Freshmen and Sophomores. This course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will explore how works of history are written by focusing on problems of historiography and method. The Staff

99H. Introduction to Historical Practice. (Restricted to Freshmen and Sophomores). This course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will explore how works of history are written by focusing on problems of historiography and method. The Staff

Upper Division Courses

The prerequisite for all upper division courses is upper division standing or consent of the instructor, unless otherwise stated. Certain graduate courses (the 200 series) are open to students with Upper Division standing and with permission of the instructor. See the Graduate Catalog or check with the History Department's Undergraduate Adviser (6248 Bunche Hall) for course descriptions.

CONTENTS

100. History and Historians. A study of historiography, including the intellectual processes by which history is written, the results of these processes, and the sources and development of history. Attention also to representative historians.
Mr. Reill

101. Introduction to Historical Practice. Prerequisite: Restricted to Juniors and Seniors. This course will take the form of discussion classes of not more than 15 students meeting with a faculty member. They will explore how works of history are written by focusing on problems of historiography and method. The Staff

102. Explorations in Psychoanalysis and History. (Formerly numbered 104). Prerequisite: consent of instructor. The course will study the art of psychological and historical interpretation, and will assess recent writings in the field of psycho-history. Limited to 35 students.
Mr. Loewenberg, Mr. Wohl

104. History of Ancient Egypt. (Formerly numbered 117). A cultural history of ancient Egypt from predynastic times to the end of the new kingdom.
The Staff

105. History of Ancient Mesopotamia and Syria. (Formerly numbered 105A-105B). The political and cultural development of the "Fertile Crescent," including Palestine, from the Neolithic to the Achaemenid period. Mr. Buccellati

106A-106B. The Middle East. (Formerly numbered 134A-134B.)

106A. From 600 to 950. A survey of the background and circumstances of the rise of Islam, the creation of the Islamic empire and the development of both to the middle of the tenth century A.D./fourth century A.H. Mr. Morony

106B. From 950 to 1500. A survey of the political, social, economic, and religious history of Islamic western Asia, with some attention to North Africa, from the middle of the 10th/4th to the end of the 15th/9th century. Mr. Morony

107A-107B. Islamic Civilization. (Formerly numbered 135A-135B.)

107A. Religious Themes. Origins of Islamic civilization; Muhummad and the Qur'an; development of Muslim doctrine, piety, and law; sectarian Islam, mysticism, and Islam in the modern world, emphasizing methods of comparative religion, religious dynamics, and history of religion.
Mr. Morony

107B. Political, Social, and Economic themes. Islamic political theory, administrative and military traditions, social organizations, urban society, education, commercial and productive organization, concepts of property and agrarian issues.
Mr. Morony

108A-108B. The Middle East: 1500 to the Present. (Formerly numbered 136A-136B). Social, intellectual and political change in Turkey, Iran and the Arab countries from 1500 to the present.
Ms. Keddie, Ms. Marsot

109A-109B. History of North Africa from the Moslem Conquest. (Formerly numbered 133A-133B).

109A. To 1578 Mr. Morony

109B. From 1578 to the present Ms. Marsot

110A-110B-110C. Islamic Iran. (Formerly numbered 130A-130B-130C). Political, social and cultural history of Persia.

110A. 600 to 1400 Mr. Banani

110B. 1400 to 1800 Mr. Banani

110C. 1800 to present Ms. Keddie

111A-111B. History of the Turks. (Formerly numbered 139A-139B-139C). A survey of the society, government, and political history of the Turks from earliest times to the present.

111A. Origins to 1808. Turkish orgins, early Central Asian and Middle Eastern states. The Rise and Fall of the Ottoman Empire. Mr. Shaw

111B. 1808 to the present. Modernization of the Ottoman Empire, 1808-1923. The Turkish Republic. The Turks in the world. Mr. Shaw

112A-112B-112C. Armenian History (Formerly numbered 131A-131B-131C). The Armenian Experience from ancient to modern times.

112A. From epic orgins to the Bagratid kingdom, Second millenium B.C. to 1071 A.D. The Urartuans; the national dynasties; relations with the Persian, Roman, Byzantine, and Arab empires; the socio-economic structure; the impact of Christianity.
Mr. Hovannisian

112B. From the Crusades to the Armenian Question, 11th-19th centuries. The Cilician kingdom; Mongol and Mamluk conquests; the Armenian experience under Seljuk, Ottoman, and Safavid rule; the union of Eastern Armenia to the Russian empire; the Armenian intellectual and political revival. Mr. Hovannisian

112C. Modern and Contemporary times. The Armenian Question since 1876; from reform movements to resistance; the massacres of 1894-1896; the Turkish Armenian and the Russian Armenian provinces; the Armenian Holocaust, 1915-1923; the Armenian republic, Soviet Armenia, and the Armenian communities. Mr. Hovannisian

112D. Introduction to Armenian Oral History. (Formerly numbered 131D). The uses and techniques of Armenian oral history; the pre-interview, the interview, and post-interview procedures; methods of compilation and evaluation. The course includes field assignments and interviews. May be concurrently scheduled with History 212.
Mr. Hovannisian

113. The Caucasus under Russian and Soviet Rule. (Formerly numbered 132). A survey of the political, economic, social, and cultural history of the Caucasus region since 1801. The Georgian, Armenian, and Azerbaijani response to Russian and Soviet rule; the nationality question and the Soviet national republics. Mr Hovannisian

115A-115B-115C. History of the Ancient Mediterranean World. (Formerly numbered 111A-111B-111C).

115A. A survey of the history of the ancient East from earliest times to the foundation of the Persian Empire. Mr. Mellor

115B. The history and institutions of the Greeks from their arrival to the death of Alexander.
Mr. Chambers, Mr. Mellor

115C. The history and institutions of Rome from the founding of the city to the death of Constantine.
Mr. Chambers, Mr. Mellor

116A-116B. History of Ancient Greece. (Formerly numbered 112A-112B).

116A. The Greek city-state. The emphasis will be on the period between the Persian Wars and the rise of Macedon. Mr. Chambers

116B. The Hellenistic Period. A consideration of the new patterns in government, social life, science, and the arts that appeared between the Macedonian conquest and the decisive intervention of Rome. Mr. Chambers

117A-117B. History of Rome. (Formerly Numbered 113A-113B).

117A. To the death of Caesar. Emphasis will be placed on the developm nt of imperialism and on the constitutional and social struggles of the late republic. Mr. Mellor

117B. From the death of Caesar to the time of Constantine. The early empire will be treated in more detail supplemented by a survey of the social and economic changes in the third century. Mr. Mellor.

118. Introduction to Roman Law. (Formerly numbered 115). This course will provide a survey of the public (constitutional), criminal and private law of the Romans. Some subjects treated will be the social context of Roman law, the historical evolution of Roman law, mechanisms and procedures by which the law was administered, and the content of private law. Mr. Mellor

119. The Christian Church. (Formerly numbered 118A). Constitutional, political, and economic history of the Church: Christianization of the Roman Empire and the Germanic kingdoms; governance and institutions of the Church; relations between Church and monarchy; the high tide of papalism; crises of authority on the eve of the Reformation. Mr. Benson

120. The Christian Religion. (Formerly numbered 118B). The religious experience of Christians—conversion, doctrine, belief, heresy, spirituality, worship, liturgy, and art—from the founding of the Church till the eve of the Reformation. Examines the religious life of lay Christians as well as that of the Church's institutional, intellectual, and spiritual leaders. Mr. Benson

121A. The Early Middle Ages. A survey of religious, intellectual, artistic, social, and economic changes in Europe from the decay of the Roman Empire until about 1050. Mr. Rouse

121B. The Later Middle Ages. A continuation of course 121A from 1050 to about 1450, with the added consideration of the new scientific movements. Mr. Rouse

121C. Medieval Civilization: The Mediterranean Heartlands. A survey of Western Mediterranean Europe, social-economic-cultural within a political framework, including its relation with other cultures. Mr. R.I. Burns, S.J.

121D. Medieval People: The Thirteenth Century. Movements and creative contributions to Western culture in this central century of the Middle Ages, as seen in its representative men and works. Mr. R.I. Burns, S.J.

M122A-M122B. Byzantine Civilization.

M122A. (Same as Classics M170A). Emphasis is laid on Byzantine theology.

M122B. (Same as Classics M170B). Literature, relations with Rome, and the Renaissance. Mr. Dyck

123A-123B. Byzantine History. The course stresses the political, socio-economic, religious, and cultural continuity in the millennial history of Byzantium. It begins with the reforms of Diocletian and includes such topics as Byzantium's relations with Latin Europe, Slavs, Sassanids, Arabs, and Turks. Mr. Vryonis

125A-E. History of Modern Europe. (Formerly numbered 141A-141G).

125A. The Renaissance: Power and culture in the Italian City-States. Mr. Martines

125B. The Reformation: Church and religion in early 16th century. Revolutionary tendencies in German society. The Peasant Uprising. Theology and political thought of Erasmus, Luther, Zwingli, Calvin, and the Anabaptists. The new churches. The effects of the Reformation on society. Mr. Clasen

125C. Absolutism and Enlightenment: Europe under the old regime. State, society, and culture in Europe from the mid-17th century until the eve of the French Revolution. Mr. Hoxie

125D. Europe, 1789-1900. The French Revolution and Napoleon. The Industrial Revolution. The uprisings of 1848. The unification of Germany and Italy. Industrialization and Imperialism. The rise of Socialism. Population growth and changes in social structure. Mr. Reill

125E. Europe in the 20th Century. International rivalries. The First World War and its impact on thought and society. Fascism and Communism. World War II. European recovery and integration. Mr. Wohl

126A-126E. Cultural and Intellectual History of Modern Europe. (Formerly numbered 142A-142E). Climates of taste and climates of opinion. Educational, moral and religious attitudes; the art, thought and manners of the time in an historical context. Quarter courses are oriented approximately as follows:

126A. 16th Century Mr. Hoxie, Mr. Westman

126B. 17th Century Mr. Hoxie, Mr. Funkenstein

126C. 18th Century Mr. Hoxie, Mr. Reill

126D. 19th Century Mr. Loewenberg, Mr. Weber

126E. 20th Century Mr. Loewenberg, Mr. Weber, Mr. Wohl

127A-127B. War and Diplomacy in Europe. (Formerly numbered 147A-147B-147C).

127A. 1650-1815. Survey of military and diplomatic history, seen in relation to social and economic developments and the growth of the state. Mr. Lossky, Mr. Symcox

127B. 1815-1945. The balance of power; the growth of the nation state; imperial and colonial rivalries; the two world wars. Mr. Symcox

128A-128D. History of Modern France. (Formerly numbered 143A-143E).

128A. France 1450-1620. Institutions of the French monarchy and territorial formation of France in the fifteenth century. French humanism. Catholic and Protestant Reformations in sixteenth-century France. French Wars of Religion. Mr. Lossky

128B. France, 1620-1770. Political and intellectual history of France, principally in the seventeenth century, with special emphasis on the role of Richelieu and of Louis XIV. Mr. Lossky

128C. A Time of Revolutions, 1770-1871. Social and political history of three kingdoms, three republics, and two empires. Mr. Weber

128D. The Making of Modern France, 1871 to the present. From oligarchy to democratic bureaucracy in two wars and three republics. Mr. Weber

128E. Contemporary France. The Staff

129A-129D. History of Modern Germany and Austria. (Formerly 144A-144D).

129A. 1555-1700: The political structure of empire and territories. The social classes. The economy. Book publishing and universities. Daily life. The Counter Reformation. Political evolution and Thirty Years' War. Military entrepreneurship. Population losses. The Peace of Westfalia. Mr. Clasen

129B. 18th Century: A study of the political, social, and intellectual structures of Germany and Austria. Topics to be covered are: Enlightened absolutism, bureaucracy and reform, conflicts between the Empire and the principalities, the Seven Years' War, Pietism, cultural life and the universities. Mr. Reill

129C. 19th Century: Age of Reform, Wars of Liberation, Peace of Vienna, Restoration and Metternichian Reaction, Zollverein, Revolutions of 1848, Prussian Constitutional Struggle, German Unification, Austrian Liberalism, the Bismarckian and Wilhelmine Eras in Germany—industrialism, anticlericalism, anti-Semitism, the rise of Social Democracy. Mr. Loewenberg

129D. 20th Century: The political, social, economic, and cultural history of German speaking Central Europe, the Hohenzollern and Hapsburg Empires, the World Wars, postwar revolutions, republics, the rise of fascism and Nazism, Occupation and the Austrian, German Federal, and the German Democratic Republics. Mr. Loewenberg

130A-130B. The Netherlands in European Affairs, 1450-1795. (Formerly numbered 145A-145B).

130A. 1450-1609. Unification of the Low Countries under the House of Burgundy; culture of the Burgundian court and of the Netherlands. Civil wars in the Netherlands and war with Spain within the framework of European politics to the Truce of 1609. Mr. Lossky

130B. 1609-1795. Development of the Dutch Republic, principally in the seventeenth century: a study in decentralized government. The Dutch Republic as a commercial center and as an observation post for European international relations. A brief consideration of the Southern Netherlands. Mr. Lossky

131A-131D. History of Russia. (Formerly numbered 146A-146D).

131A. From the Origins to the Rise of Muscovy: Kievan Russia and its Culture, Appanage Principalities and Towns; the Mongol Invasion; the Unification of the Russian State by Muscovy, Autocracy and its Servitors; Serfdom. Mr. Krekic, Mr. Lossky

131B. Imperial Russia: Westernization of State and Society; Centralization at Home and Expansion Abroad; the Peasant Problem; Beginnings of Industrialization; Political Reforms; Movements of Political and Social Protest. The Revolution of 1905. Mr. Rogger

131C. Revolutionary Russia and the Soviet Union: Relations between State and Society; Peasantry and Working Class; Russia in World War I; the Revolutions of 1917; Consolidation of the Bolshevik Regime; Succession Crisis and Ascendancy of Stalin, Collectivization and Industrialization; Foreign Policy and World War II; Death of Stalin and De-Stalinization. Mr. Rogger

131D. Intellectual History: Social Thought and Movements in Modern Russia, late 18th to early 20th centuries. Mr. Rogger

132A-132B. History of Italy. (Formerly numbered 148A-148B).

132A. ca. 1530-1815. Survey of social, economic, political and cultural history covering the eclipse of the Italian economy and the city-state, the rise of absolutist governments. Enlightenment reforms and the origins of the Risorgimento. Mr. Symcox

132B. 1861 to the Present. Political, economic, social, diplomatic and ideological developments. Mr. Wohl

133A-133B. The Social History of Spain and Portugal. (Formerly numbered 148C-148D).

133A. The Age of Silver in Spain and Portugal, 1479-1789. This course will deal with the development of popular history in the Iberian Peninsula. Emphasis will be given to peasant and urban history, gold routes, slave trade, history of women, and the development of different types of collective violence. Ms. Kaplan

133B. Rebellion and Revolution in Modern Spain and Portugal, 1789 to the Present. Spain's position in Europe and its potentialities for social change will be discussed through investigations of urban history, agrarian social structure, history of

NOTE: For key to symbols, see pages 65 and 66

women, problems of slow industrial development, imperialism, anarchism, and labor history. Ms. Kaplan

134A. Southeastern Europe, 500-1500. (Formerly numbered 149A). A political, economic, and cultural survey of the independent Balkan states in the Middle Ages. Mr. Krekic

134B. Southeastern Europe, 1500-1918. (Formerly numbered 149B-C). The Balkans under Ottoman rule, movements of national liberation and the formation of nation states. Mr. Krekic

135A-135B. Marxist Theory and History. (Formerly numbered 161A-161B). Prerequisite: 135A is generally a prerequisite for 135B, or permission of instructor. Introduction to Marxist philosophy and method; conception of historical stages; competing Marxist analyses of transition from feudalism to capitalist economy via reading *Capital*; theory of politics and state in relationship to historical interpretation of 19th century European revolutions; capitalist crises. Mr. Brenner, Ms. Kaplan

136A-136Z. Topics in European History. (Formerly numbered 160A-160Z). The individual courses in this series aim to provide students with an integrated introduction to important aspects of European history by focusing on a specific topic within a broad framework.

136A. Social Movements. Ms. Kaplan

136B. Peasants and Agrarian Society. Mr. Brenner

136C. Urban Society. Mr. Symcox

136D. Aristocracy and Nobility. The Staff

136E. Population: The population of Europe since the middle ages. Plague, diseases and famine; marriage and fertility control; industrialization and population growth; mortality decline and the adoption of birth control in the 19th century; the baby boom and its consequences. The Staff

136F. The Family: The social history of the family in western Europe since the middle ages. Household and family organization of peasants, artisans and aristocrats; kinship, child-rearing, parental authority, marriage and inheritance systems; attitudes toward love, sex, and children. The Staff

136G. Psycho-history. Mr. Loewenberg, Mr. Wohl

136I. Special Topics. The Staff

136J. Women. Ms. Kaplan

137A-137B. Themes and Problems in English History Since 1500. (Formerly numbered 150A-150B). Prerequisite: upper division standing or consent of the instructor. A general survey of English history since c. 1500 with analyses of particular social, political, religious and economic questions. The division between courses A and B occurs at c. 1714. Mr. Moore

138A-138B. Medieval England. (Formerly numbered 151A-151B).

138A. Anglo-Saxon England and the Norman Conquest, 900-1215; the nature of the society that emerged from the Viking invasions; the conquest and colonization by the Normans; the principles of lordship by which they ruled, to Magna Carta, 1215. Mrs. Rouse

138B. England in the High Middle Ages: Magna Carta to 1400. The emphasis will be on the social and economic developments that underlay constitutional change, peasant revolt, the Black Death and the Hundred Years' War. Mrs. Rouse

139. Renaissance England. (Formerly numbered 150C-150D). Culture and Society. Emphasis on literary culture (Elizabethans, Jacobeans, Carolines), but with readings and lectures on different aspects of political and economic life as required for a serious understanding of the culture. Mr. Martines.

140A-140B. Early Modern England, 1450-1700. (Formerly numbered 153A-153B).

140A. The development of capitalism in England, especially the countryside, 1450-1700; the transformation of class relations; the emergence of political conflicts; state centralization and military aristocracy, Crown versus Parliament, the English Revolution. Mr. Brenner

140B. Analysis of the transformation of religious and political ideology in relationship to socio-economic and political conflicts. The English Reformation and the development of the State; Protestantism and political opposition; religious radicalism and the English Revolution. (Covers same period as History 140A from different angle, so it is preferable to take History 140A-B in sequence). Mr. Brenner

141A-141B. Modern England. (Formerly numbered 154A-154B). Analyses of the English economy, society and polity since 1688, focusing upon the dynamics of both stability and change.

141A. 18th and 19th centuries, 1688-1832.

141B. 19th and 20th centuries, 1832 to World War II and its aftermath. Mr. Moore

142A-142B. The British Empire Since 1783. (Formerly numbered 158A-158B). The political and economic development of the British Empire, including the evolution of colonial nationalism, the development of the commonwealth idea, and changes in British colonial policy. Mr. Galbraith, Mr. SarDesai

143. History of Canada. (Formerly numbered 159). A survey of the growth of Canada into a modern state from its beginnings under the French and British colonial empires. Mr. Galbraith

145A. Colonial America, 1600-1763. (Formerly numbered 171A). An examination of the molding of an American society in English North America from 1600 to 1763. Emphasis is given to the interaction of three converging cultures: Western European, West African, and American Indian. Mr. Nash

145B. Revolutionary America, 1760-1800. (Formerly numbered 171B). An inquiry into the origins and consequences of the American Revolution, the nature of the revolutionary process, the creation of a constitutional national government, and the development of a capitalist economy. Mr. Nash

146A-146B. The United States: 1800-1850. (Formerly numbered 172A-172B.

146A. Jeffersonian America. Jeffersonian Republican ascendancy and the Era of Good Feelings, 1800-1828; disintegration of the Federalist opposition; the testing of American nationality in the second war with Britain; beginnings of the transportation and industrial revolutions; restructuring of politics in an increasingly egalitarian age. Mr. Gatell, Mr. Howe

146B. Jacksonian America and Beyond. The "Jacksonian Revolution" and its aftermath, 1829-1850; the problem of national power versus state sovereignty; problems of rapid social change through industrialization and urbanization; reform impulse; antislavery movements; territorial expansion as focus for sectional rivalry. Mr. Gatell, Mr. Howe

147A. The United States: Civil War and Reconstruction. (Formerly numbered 173A). The topics studied will include: the rise of sectionalism, the antislavery crusade; the formation of the Confederate States; the war years; political and social reconstruction. Mr. Robinson

147B. The United States, 1875-1900. (Formerly numbered 173B). American political, social, and institutional history in a period of great change. Emphasis on the altering concepts of the role of government and the responses to that alteration. Mr. Saxton

148A-148B. The United States: The Twentieth Century. (Formerly numbered 174A-174B). The political, economic, intellectual, and cultural aspects of American democracy in the twentieth century. Mr. Coben, Mr. Weiss

148C. The United States Since 1945. (Formerly numbered 174C). A history of the political, social and diplomatic developments that have shaped the United States since 1945. Mr. Dallek, Mr. Weiss

149A-149B. American Economic History. (Formerly numbered 175A-175B).

149A. Examines the roles of economic forces, institutions, individuals and groups in promoting or impeding effective change in the American economy, 1790-1910. During this period the technical skeleton of the modern industrial structure was formed. The course explains why and how the American economy evolved into a dual economy, characterized by a center of firms large in size and influence, and a periphery of smaller firms. Ms. Yeager

149B. Examines the dynamics of change in the dual economy, focusing in greater detail upon interrelationships between macro and micro developments in the economy and upon the growing interdependency between the U.S. and the world economy, 1910 to the present. Ms. Yeager

150A-150B. Intellectual History of the United States. (Formerly numbered 177A-177B). The principal ideas about humanity and God, nature and society, which have been at work in American history. Includes the sources of these ideas, their connections with one another, their relationship to American life, and their expression in great documents of American thought. Mr. Howe

150C. History of Religion in the United States. (Formerly numbered 177C). Consideration of the religious dimension of people's experience in the United States. A number of religious traditions which have been important in this country will be examined, and attention devoted to relating developments in religion to other aspects of American culture. Mr. Howe

151A-151B. Constitutional History of the United States. (Formerly numbered 179A-179B).

151A. A study of the origins and development of constitutionalism in the United States. Particular emphasis on the framing of the Federal Constitution in 1787, and its subsequent interpretation. Topics of special emphasis include: judicial review, significance of the Marshall Court, and the effects of slavery and the Civil War on the Constitution. Mr. Gatell

151B. A study of constitutionalism since the Civil War. Particular emphasis on the development of the Supreme Court, the due process revolution, the Court and political questions, and the fact of judicial supremacy within self-prescribed limits.

152A-152B. American Diplomatic History. (Formerly numbered 178A-178B).

152A. The establishment of an independent foreign policy, the territorial expansion of the United States, and the emergence of a world power. Mr. Dallek

152B. The role of the United States in the 20th century world. Mr. Dallek

153. The United States and the Philippines. (Formerly numbered 183). An examination of the interrelationships of immigration and of colonialism and independence between the United States and the Philippines focused mainly within the time period 1898 to the present. (Survey level familiarity with Southeast Asian or United States history, or both, is recommended but not a prerequisite.) Mr. Saxton

154A-154B. United States Urban History. (Formerly numbered 189A-189B).

154A. The pre- and early industrial city. Focuses on the social, spatial and economic development of U.S. cities. Special attention will be paid to the social consequences of the pre- and early industrial economic relationships. Mr. Monkkonen

154B. The industrial and post-industrial city. (154A is *not* a prerequisite). Focuses on the mature urban network, with concentration on social, spatial, and economic interaction. The issues of mass society, neighborhood, crime, poverty, ethnicity and racial discrimination will be covered. Mr. Monkkonen

154C-154D. History of American Architecture and Urban Planning: 1600-The Present. (Formerly numbered 180J-180K). Aspects of American cultural history as explored through architecture, urban planning and the allied arts. The focus is on the development of an architectural consciousness in America, ways in which the built environment has affected its users and observers, and the extent to which it has reflected their values and ways of living. 154C covers from 1600 to 1890. 154D covers from 1890 to the present. Mr. Hines

155A-155B. American and European Working Class Movements. (Formerly numbered 185A-185B). Examines major episodes in the institutional, economic, and cultural development of the American working class from colonial times to the present, emphasizing both organized and unorganized labor in a comparative context. A.F. of L., rise of industrial unionism, and labor politics are also discussed. Mr. Laslett

156A-156B. American Social History, 1750-1960. (Formerly numbered 180A-180B). A historical analysis of American society and culture, with emphasis on the family, religious values, Afro-American life, women's work, urbanization and industrialization, immigration and nativism, and movements for social reform. 156A will cover the period 1750-1860; 156B, 1860-1960. Mr. Coben

156C-156D-156E. Social History of American Women. (Formerly numbered 171C-171D-171E). A survey of the major demographic, economic, social and intellectual factors shaping the lives of women in families, at work, and in larger social collectivities. Class, regional, racial, and ethnic comparisons will be emphasized.

156C. Colonial and Early National—1600-1820. Ms. Sklar

156D. Victorian and Industrial—1800-1920. Ms. Sklar

156E. 20th Century—1900-1975. Ms. Sklar

157A-157B-157C. North American Indian History. (Formerly numbered 180F-180G-180H). History of Native Americans from contact to the present. Emphasizes the ethnohistorical dimensions of culture change, Indian political processes and the continuity of Native American cultures. Focuses on selected Indian peoples in each period.

157A. Contact - 1760. Mr. Morrison

157B. 1760-1860. Mr. Morrison

157C. 1860-Present Mr. Morrison

158A. Comparative Slavery Systems. (Formerly numbered 176C). An examination of the slavery experience in various New World slave societies. The course focuses on outlining the similarities and the differences among the legal status, treatment and slave cultures of North American, Caribbean and Latin American Slave Societies. Mr. Robinson

158B-158C. Introduction to Afro-American History. (Formerly numbered 176A-176B). A survey of the Afro-American experience. These courses focus on the three great transitions of Afro-American life: the transition from Africa to New World slavery, the transition from slavery to freedom, the transition from rural to urban milieus. Mr. Hill, Mr. Robinson

158D. Afro-American Urban History. (Formerly numbered 176D). An examination of Afro-American urban life prior to 1945. The course focuses on the transformation from slavery to freedom and the shift from southern to northern areas It looks closely at the forces which both propelled Afro-Americans to the cities and which also inhibited their adjustment to them. Mr. Robinson

158E. Afro-American Nationalism in the First Half of the Twentieth Century. (Formerly numbered 176E). A critical examination of the Afro-American search in the first half of the twentieth century for national/group cohesion through collectively built institutions, associations, organized protest movements, and ideological self-definition. Mr. Hill

159A-159B. History of the Chicano Peoples. (Formerly numbered 186A-186B). The character, values, economy, social structure, politics, culture, and intellectual heritage of the Mexican-American peoples as related to the history of the United States and Mexico, with emphasis on the Southwest. Mr. Gómez-Quiñones

160. The Immigrant in America. (Formerly numbered 182). An historical analysis of the social and economic causes and effects of immigration, particularly after the 1880's, emphasizing the problems of acculturation and adjustment. The restrictionists and the implications of immigration policy on U.S. foreign policy will be stressed. Mr. Laslett

161. Asians in American History. (Formerly numbered 192). A study of the politically troubling question of entry into the United States of immigrants ineligible for citizenship, and their citizen children in American history.

162. The American West. (Formerly numbered 181). A study of the West as frontier and as region, in transit from the Atlantic seaboard to the Pacific, and from the 17th century to the present. Mr. Hundley

163. History of California. (Formerly numbered 188). The economic, social, intellectual, and political development of California from the earliest times to the present. Mr. Hundley

165A-165B. Colonial Latin America. (Formerly numbered 168A-168B). Studies in the general development of Latin America prior to 1825 with emphasis on social history. Mr. Lockhart

165C. Indians of Colonial Mexico. A survey of the social and cultural history of the Indians of Mexico, especially central Mexico, from the time of the European conquest until Mexican independence, emphasizing an internal view of Indian groups and patterns on the basis of records produced by the Indians themselves. Mr. Lockhart

166. Latin America in the 19th Century. (Formerly numbered 162A). An intensive analysis of the economic, social, and political problems of the Latin American nations from their independence to around 1910. Mr. Burns, Mr. Burr

167A-167B. Latin America in the 20th Century. (Formerly numbered 162B). Examination of the "widening gap" between the 20 republics of Latin America and the United States suggests the hypothesis that the gap has been mythical. Case studies of experiments in national development are illustrated by films and outside speakers. Mr. Burr, Mr. Wilkie

168. History of Latin American International Relations. (Formerly numbered 169). Emphasis is given to the developing interests of the Latin American nations in their relationship with one another and with other areas of the world beginning with 19th-century independence. Mr. Burr

169. Latin American Elitelore. (Formerly numbered 164). Prerequisite: 167A or B or 171. Study focuses on Elitelore (defined as oral or noninstitutionalized knowledge involving the leaders' conceptual and perceptual life history views) in contrast to Folklore (the followers' traditional or popular views). Elitelore genres include oral history, literature, and cinema. Mr. Wilkie

170. Latin American Cultural History. (Formerly numbered 162C). Intellectual, artistic, and folk expressions of the Latin American spirit and character are examined in readings and lectures with emphasis on the unique contribution of Latin Americans to develop self-interpretation. Music, films, and slides supplement discussions. Mr. Burns, Mr. Wilkie

171. The Mexican Revolution Since 1910. (Formerly numbered 166). The concept of "Permanent Crisis" is examined to describe and explain the structure of "Permanent" under "one-party democracy." Mr. Wilkie

173. Modern Brazil. (Formerly numbered 163B). Lectures treat selected topics in the political, economic, social, and cultural development of Brazil. Topical emphasis falls on modernization and the struggle for change, 1850 to the present. Discussions, films, slides, and guest speakers supplement and complement the lectures. Mr. Burns

174. Brazilian Intellectual History. (Formerly numbered 163C). The general intellectual development of Brazil with emphasis on those introspective movements in which the Brazilians attempted to interpret themselves, their nation, and their civilization. Mr. Burns

175A-Z. Topics in African History. (Formerly numbered 125A-125Z). Prerequisite: one previous course in African History at UCLA or consent of instructor. Examines specific topics which have a continental application rather than proceeding on a strictly chronological or regional basis.

175A. Early African Cultural and Technological Traditions. A survey of the non-documentary sources of early African history with particular reference to technological, economic, and cultural developments from the origins of Man until the colonial period. Mr. Posnansky

175B. Africa and the Slave Trade. Focuses on the social, economic, political, and cultural impact of the slave trade on African society. Emphasizes the Atlantic trade, without neglecting those of the Ancient Mediterranean, Islamic, and Indian Ocean worlds. Abolition and the African diaspora are also explored. Ms. Aidoo, Mr. Alpers, Mr. Obichere

175C. Africa in the Age of Imperialism. Topics of investigation include the penetration of pre-capitalist social formations by capital, the emergence of classes, the nature of the colonial and post-colonial state, and the struggle for national liberation in a global context. Mr. Alpers

176A-176B. History of West Africa. (Formerly numbered 126A-126B).

176A. West Africa from Earliest times to 1800.

176B. West Africa since 1800. Ms. Aidoo, Mr. Obichere

177. Ethiopia and the Horn of Africa. (Formerly numbered 129). Surveys the history of Ethiopia, Somalia, and Sudan from earliest times to the Twentieth Century. Mr. Alpers, Mr. Ehret

178A-178B. History of East and Central Africa. (Formerly numbered 127A-127B).

178A. Examines the cultural diversity of East and Central African societies, the growth of more complex political systems, and the impact of international trade to the later nineteenth century. Mr. Alpers, Mr. Ehret, Mr. Posnansky

178B. Concentrates on the economic, social, and political history of Uganda, Kenya, Tanzania, Zambia, Malawi, Zimbabwe, and Mozambique since the imposition of colonial rule. The themes of underdevelopment and protest will provide a focus for the course. Mr. Alpers

179A-179B. History of Southern Africa. (Formerly numbered 128A-128B).

179A. History of Southern Africa from origins to 1870. The origins of the South African peoples and their interactions to 1870. Attention will be given to social and economic as well as political aspects. Mr. Ehret

179B. History of Southern Africa since 1870. The interactions between the inhabitants of Southern Africa since 1870. Attention will be given to social and economic as well as political aspects. Mr. Galbraith

182A-182B-182C. History of China. (Formerly numbered 191A-191B-191C) Prerequisite: course 9B or 182A or equivalent readings are prerequisite to 182B.

182A. Origins to 900. Bronze age and iron age China; the classical thinkers; the birth of the imperial state and the development of an aristocratic society.

182B. 900-1500. The end of aristocratic rule; the mature imperial state and bureaucratic govern-

NOTE: For key to symbols, see pages 65 and 66

ment; the foreign presence; trade, agriculture, and the growth of cities.

182C. 1500-1800. The background to modern China; landholding and agriculture; nascent capitalism; peasant movements; Neo-Confucianism and the Manchu state.
Mr. Farquhar, Mr. Huang

183. Modern China, 1840-1920. (Formerly numbered 191D). From the Opium War to the May Fourth Movement, Imperialism, semi-colonial China, and popular movements; some attention to contrasts between established and revolutionary interpretations. Mr. Huang

184. The Chinese Revolution. (Formerly numbered 191E). From the founding of the Chinese Communist Party to the present. Special emphasis on: the evolution of Mao's thought, the history of the Communist movement, the conditions in the Chinese countryside, the revolutionary developments under the People's Republic. Mr. Huang

185. The Mongols in East Asian History. (Formerly numbered 191F). Prerequisite: course 9B, or 182B, or 182C. Emphasis on the period 1200-1900. Special attention will be paid to nomadic pastoralism, Mongolian society, the first empire, and relations with China and Tibet. Mr. Farquhar

186. Diplomatic History of the Far East. (Formerly numbered 193). The role of the Far Eastern states in the international community beginning with the establishment of the Treaty System in China and the opening of Japan to intercourse with the rest of the world in 1854. The Staff

187A-187B-187C. Japanese History. (Formerly numbered 195A-195B-195C). The political, economic, and cultural development of Japan, from pre-history to the present.

187A. Ancient: Pre-history-1600. Mr. Notehelfer

187B. Early Modern: 1600-1868. Mr. Notehelfer

187C. Modern: 1868-present. Mr. Notehelfer

188A. Early History of India. (Formerly numbered 196A). Introduction to the civilization and institutions of India. A survey of the history and culture of the South Asian subcontinent from the earliest times to the founding of the Mughal Empire.
Mr. Wolpert

188B. Recent History of India and Pakistan. (Formerly numbered 196B). History of the South Asian subcontinent from the founding of the Mughal Empire, through the eras of European expansion, British rule, and the nationalist movement, to the present. Mr. Wolpert

190A-190B. History of Southeast Asia. (Formerly numbered 196C-196D).

190A. Early History of Southeast Asia. A political and cultural history of the peoples of Southeast Asia from the earliest times to about 1815.
Mr. SarDesai

190B. Southeast Asia since 1815. History of modern Southeast Asia with emphasis on expansion of European influence in the political and economic spheres, growth of nationalism and the process of decolonization. Mr. SarDesai

M191A-191B. Jewish History. (Formerly numbered 138A-138B.) (Same as Near Eastern Languages and Cultures M191A-B.) A survey of social, political and religious developments.

191A. From biblical times to the end of the Middle Ages.

191B. From the end of the Middle Ages to the present. Mr. Funkenstein

191C-191D. Focal Themes in Jewish History. (Formerly numbered 138C-138D). The course will treat in depth one major theme in Jewish history (such as: the history of Messianic Movements, the structure of the Jewish Communities) through the ages.
Mr. Funkenstein

192A-192B. Jewish Intellectual History. (Formerly numbered 137A-137B). 192A will cover the medieval period; 192B the modern period. This course studies the development of Jewish self-understanding in relation to the intellectual climate of the environment, as expressed in the halacha, in philosophy, and in cabbalism. Mr. Funkenstein

193A. History of Religions: Myth. (Formerly numbered 124D). The nature and function of myth in the history of religion and culture. Examples are selected from non-literate as well as from other, Asian and European traditions. Mr. Bolle

193B. Religions of South and Southeast Asia. (Formerly numbered 124E-F). Prerequisite: course 4 or 193A. Topics vary from year to year: Religion of the Veda; Brahmanism; (later) Hinduism. See Course Schedule for specifics. Mr. Bolle

193C. Religions of South and Southeast Asia. (Formerly numbered 124B-124G). Prerequisite: course 4 or 193A. Topics vary from year to year: Buddhism in India; the Religions of Java and Bali; the Non-Literate Traditions of India and Southeast Asia. See Course Schedule for specifics. Courses 193B and C may be taken independently for credit. Mr. Bolle

193D. Religions of the Ancient Near East. (Formerly numbered 124C). The main polytheistic systems of the ancient Near East, with emphasis on Mesopotamia and Syria, and with reference to the religion of ancient Israel: varying concepts of divinity, hierarchies of gods, prayer and cult, magics, wisdom and moral conduct.
Mr. Buccellati

193E. Special Topics in the History of Religions. Topics will be announced in the Course Schedule and selected from the following: Ancient Germanic Cults; Renaissance Mysticism; Mystics of the Low Countries; Goddesses; Religion in a Secular Age.
Mr. Bolle

195A-195D. History of Science. (Formerly numbered 106A-106D). Science and scientific thought in relationship to society.

195A. Medieval and Renaissance Science. Prerequisite: course 3 or consent of instructor. Continuity and discontinuity in scientific traditions from the 12th to the 17th century; interrelationships between theology, scientific thought, and social conditions. Theories of force, motion and space stressed; some attention to the occult sciences. Mr. Funkenstein, Mr. Westman

195B. Perspectives on the Early Modern Physical Sciences. Prerequisite: course 3 or consent of instructor. A detailed view of selected topics in the development of the physical sciences 1600-1750, with a focus on explanations of historical change in science. Normally, four topics will be studied in order to cover a broad range of scientific, philosophical, and social issues. The Staff

195C. The Classical Physical Sciences: 18th and 19th Centuries. Prerequisite: course 3B or consent of instructor. Studies intensively several topics in the development of classical physical science from Newton's Mechanics to Maxwell's Electromagnetic Theory, with special attention to demands of the Enlightenment, the Industrial Revolution, and 19th Century professionalized science.
Mr. Burke, Mr. Wise

195D. Physical Sciences in the 20th Century. Prerequisite: course 3B or consent of instructor. Provides a non-mathematical but nevertheless detailed look at selected physical sciences and Scientific issues: for example, the birth of quantum mechanics and relativity; stellar evolution and cosmological theories; nuclear physics, nuclear weapons, and nuclear policy; and the changing character of industrialized science. Mr. Burke, Mr. Wise

195E. History of Physics Laboratory. (Formerly numbered 106H). Prerequisite: course 3 or consent of instructor. A new approach seeking to integrate the roles in science of theory, experiment, controversy, and philosophy as seen through selected critical experiments. Four experiments—e.g., of Galileo, Newton, Franklin, Oersted—will be prepared in historical context, performed, analyzed, and disputed. Mr. Wise

M195F-195G. History of Biological Sciences. (Formerly numbered M106E-106F). (Same as Medical History M108A-108B.) Prerequisite: upper division standing.

M195F. Biological sciences from ancient times to the early nineteenth century. Mr. Frank

M195G. Biological sciences from the early nineteenth to the mid-twentieth century. Mr. Frank

M195H. The Biomedical Sciences in the 19th Century. (Formerly numbered M106G). (Same as Medical History M197.) Three hours per week in the spring quarter. Prerequisite: consent of instructor. Topics in the growth of the biomedical sciences and their institutions in Europe and America, from the French Revolution to approximately 1900.
Mr. Frank

195I-195J. History of the Social Sciences. (Formerly numbered 106I-106J).

195I. Europe, 17th-19th centuries. Theories of capitalism and the growth of empirical research on social problems; beginnings of social statistics and sociography; rise of classical political economy; political and economic controversies, social science and social reform movements.

195J. Europe and America, 1880-1914. The development of sociology and social psychology; impact of socialist movements and Marxist theory upon the social sciences; dilemma of subjectivist and objectivist sociologies; divorce of theoretical sociology from social research; rise of pragmatism in the social sciences. The Staff

197. Undergraduate Seminars. (Two courses only may be taken for credit.) Limited to 15 students meeting with a faculty member. Seminars will be organized on a topics basis with readings, discussions, papers. Signups and descriptions of offerings each quarter at the History Department Undergraduate Adviser's office (6248 Bunche Hall). When concurrently scheduled with courses 201A-T, 203, undergraduates must obtain instructor's consent to enroll. The Staff

199. Special Studies in History. Prerequisite: consent of instructor. Two courses only may be taken for credit. An intensive directed research program. Enroll in Department. The Staff

199HA-199HB-199HC. Directed Studies for Honors. Prerequisite: a three-quarter sequence restricted to history honors majors. IP grading.

199HA. Extensive reading and research in the field of the student's proposed honors thesis. Reports on work in progress will be made to the sponsoring professor at regular intervals.

199HB. Continued reading and research culminating in a draft of the student's honors thesis.

199HC. Revisions of draft and preparation of polished honors thesis; oral examination on thesis.
The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

HUMANITIES

Arnold J. Band, Ph.D., *Professor of Hebrew and Comparative Literature.*
Pier-Maria Pasinetti, Ph.D., *Professor of Italian and Comparative Literature.*
Ross P. Shideler, Ph.D., *Professor of Scandinavian Languages and Comparative Literature.*
Katherine C. King, Ph.D., *Assistant Professor of Classics and Comparative Literature.*
Kathleen L. Komar, *Assistant Professor of German and Comparative Literature.*
Albert R. Braunmuller, Ph.D., *Associate Professor of English.*
Albert D. Hutter, Ph.D., *Associate Professor of English.*

Selected masterpieces of world literature representing different types and national origins. Recommended as courses to satisfy the H-requirement in the College of Letters and Science.

1A. World Literature: Antiquity to Renaissance. Prerequisite: Completion of Subject A requirement.

Class meets three hours a week plus one section per week. The Staff

1B. World Literature: Renaissance to Modern Period. Prerequisite: Completion of Subject A requirement. Class meets three hours a week plus one section per week. The Staff

2A. Survey of Literature: Antiquity to the Renaissance. Lecture, two hours; discussion, two hours. Prerequisite: Completion of Subject A requirement. The study of selected texts from Antiquity to the Renaissance with emphasis on literary analysis and expository writing. Essays on topics related to the assigned readings will be required. Not open to students who have taken Humanities 1A. This course may be taken to satisfy the Letters and Science "D" requirement (English Composition). The Staff

2B. Survey of Literature: Renaissance to Modern. Lecture, two hours; discussion, two hours. Prerequisite: Completion of Subject A requirement. The study of selected texts from the Renaissance to the Modern Period with emphasis on literary analysis and expository writing. Essays on topics related to the assigned texts will be required. Not open to students who have taken Humanities 1B. This course may be taken to satisfy the Letters and Science "D" requirement (English Composition). The Staff

101. The Romantic Dilemma. Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. The theme of Romantic individualism and rebellion, pursued through literary examples of Romantic hero types (and anti-types) from Rousseau and Goethe to Dostoevsky and Hesse. The Staff

102. Satire. Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. The changing nature of satire as illustrated by examples of the genre from Horace and Juvenal to Ionesco and Nabokov. The Staff

104. The Twentieth Century Continental Novel: Mann and Proust. Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. An intensive study of *The Magic Mountain* and *The Remembrance of Things Past* as works of art and as expressions of the sense of social and cultural dissolution felt in early twentieth-century Europe. Mr. Pasinetti

105. The Comic Spirit. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 205.) Literary masterpieces both dramatic and nondramatic, selected to demonstrate the varieties of comic expression. Undergraduates will be allowed to read all works in translation. Mr. Band

107. The Epic. Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. A survey of the epic as a literary form from Homer to Camoens, with analysis of individual works in relation to their contemporary societies and a comparison of the salient differences between oral and literary epic. Ms. King

108. The Faust Theme. Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. The course will explore artists' and intellectuals' use and abuse of their disciplines to find refuge from spiritual dryness. Readings of works by such writers as Marlowe, Goethe, Melville, Valery, Mann, and Malcolm Lowry. Mr. Cross

109. The Crisis of Consciousness in Modern Literature. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 209.) Study of modern European and American works which are concerned both in subject matter and artistic methods with the growing self-consciousness of human beings and their society, focusing on the works of Kafka, Rilke, Woolf, Sartre and Stevens. Undergraduates will be allowed to read all works in translation. Ms. Komar

110. Man and His Fictions. Prerequisites: course 1A-1B, or English 1 and 2, or consent of the instructor. An exploration of dialogue and tale-telling, the wisdom or knowledge they possess, how the exchange of tales defines and sustains a community, how a narrator clarifies his form and meaning for his audience. Ms. Komar

111. Tragedy. Prerequisite: upper division standing. (May be concurrently scheduled with Comparative Literature 211). Major tragic drama of the Western tradition: a study of theme and form. Undergraduates will be allowed to read all works in translation. Ms. King

114. The Short Novel. Prerequisites: course 1A and 1B, or English 1 and 2, or consent of the instructor. A study of selected short novels as works of literary art and as relevant intellectual statements. Texts by Melville, Flaubert, Dostoevsky, Kafka, et al. Mr. Pasinetti

115. Four Modern Dramatists. A study of several works by four major modern dramatists, focusing on understanding specific elements in each work and the authors' possible interrelations. Pirandello, Beckett, and Pinter will be read; the fourth author will be chosen from: Ionesco, Giradoux, Cocteau. Mr. Braunmuller

116. Man and Society in the Renaissance. Lecture, three hours; discussion, one hour. Prerequisites: Humanities 1A-1B, or English 1 and 2, or consent of the instructor. Explorations of a change in Western man's relationship to his world, himself, and his art; reading of such works as *Don Quixote*, the *Essays of Montaigne, Gargantua and Pantagruel, The Praise of Folly, Utopia.* The Staff

117. The Mystery Novel. Prerequisites: upper division standing and a literature major or consent of instructor. (May be concurrently scheduled with Comparative Literature 297.) A study of mystery and detective fiction in England, France, and the United States. The origin, form and historical significance of mystery fiction will be developed through close readings of selected works. Undergraduates will be allowed to read all works in translation. Mr. Hutter

129. Archetypal Heroes in Literature. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 229.) Survey and analysis of the function and appearance of such archetypal heroes as Osiris, Ulysses, Prometheus and Oedipus in literature from antiquity to the modern period. Undergraduates will be allowed to read all works in translation. The Staff

140. Medieval Epics. Prerequisites: upper division standing and literature major. (May be concurrently scheduled with Comparative Literature 240.) The seminar will consider five medieval epics: *Beowulf, El Cid, Chanson de Roland, Niebelungenlied,* and *Njalssaga.* There will be two objectives: first, a critical understanding of each work, and second, an understanding of the nature of epic literature. Assignments will consist of an extended seminar paper and short oral reports. Undergraduates will read the works in translation. Mr. Condren

145. Renaissance Drama. Prerequisites: upper division standing and a literature major; consent of instructor. (May be concurrently scheduled with Comparative Literature 245.) The course offers a broad introduction to the subject matter and types of plays in the Renaissance. Historical and literary influences on the plays will be considered. Readings will include works of such dramatists as: Tasso, Machiavelli, Lope de Vega, Racine, Jonson, Shakespeare. Undergraduates will be allowed to read all works in translation. Mr. Braunmuller

M160. Literature and the Other Arts. (Same as Comparative Literature M260.) Prerequisites: upper division standing and literature major. (Reading knowledge of French, Spanish, Italian or German for graduate students.) A comparative study of literature and the other art media. This course is cross-listed with Comparative Literature M260. Students seeking U/G credit will be allowed to read all works in translation. Students taking the course for graduate credit will be required to prepare papers based on texts read in the original language and will meet as a group one additional hour per week. The Staff

170. The Dream in English and German Romantic Literature. Prerequisite: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 270.) A study of the use of the dream as a standard narrative technique in English and German Romantic literature. Undergraduates will be allowed to read all works in translation. Mr. Burwick

172. The Grotesque in Romantic Literature and Art. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 272.) A study of the grotesque in the visual and verbal arts of the Romantic period; interpretation will address the aesthetics of tragic-comic interaction, the demonic vision, and the satirical sketches of man's abnormality and perversity. Undergraduates will be allowed to read all works in translation. Mr. Burwick

175. The Nineteenth Century Novel. Seminar, three hours. Prerequisites: upper division standing and literature major. (This course may be concurrently scheduled with Comparative Literature 275.) A comparative study of the 19th Century novel in England and on the continent. Novels will be selected so as to allow the seminar to concentrate on a particular tradition or critical problem. Undergraduates may read the texts in translation. Mr. Lehan

176. Fiction and History. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 276.) The course analyzes the use of historical events, situations, and characters in works of fiction that are not necessarily "historical novels". Texts and individual assignments range from nineteenth century authors such as Stendhal, Tolstoy, Verga, to Proust and contemporaries like Vidal, Grass, Garcia Marques. Use of fictional methods by historians may also be analyzed. Undergraduates will read all works in translation. Mr. Pasinetti

180. The Symbolist Tradition in Poetry. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 280.) A study of the symbolist tradition in English, French and German poetry. Undergraduates will be allowed to read all works in translation. Mr. Shideler

181. Poetry and Poetics of the Post-Symbolist Period. Prerequisites: upper division standing and a literature major. (May be concurrently scheduled with Comparative Literature 281.) A study of some of the dominant poetic trends and figures in American and Euorpean poetry in the first half of the 20th century, including such Surrealists as G. Appollinaire and A. Breton, imagists, and major individual poets such as E. Pound, T.S. Eliot, Paul Valery, R.M. Rilke, Stefan George, and Wallace Stevens. Undergraduates will be allowed to read all works in translation. Mr. Shideler

IMMUNOLOGY

The Immunology faculty is associated with several departments and is joined in a common instructional program designed to meet the diverse needs of undergraduate, graduate, and professional students, as well as postdoctoral fellows. An *Interdisciplinary Course Sequence in Immunology* with a brief description of each course and the faculty involved may be obtained by writing the Department of Microbiology and Immunology, UCLA Center for the Health Sciences. Students seeking degrees with emphasis in immunology may choose to meet the general requirements of any of the following four departments: Anatomy, Biology, Microbiology, or Microbiology and Immunology.

NOTE: For key to symbols, see pages 65 and 66

INDO-EUROPEAN STUDIES (INTERDEPARTMENTAL)

The department of Indo-European Studies does not offer an undergraduate degree. The following upper division courses are offered by the department, with enrollment restrictions as indicated.

For detailed information on the degrees offered by this department, please refer to the Graduate Catalog.

Upper Division Courses

131. European Archaeology: Proto-Civilizations of Europe. A survey of European cultures from the beginning of the food-producing economy in the 7th millennium B.C. to the beginning of the Bronze Age in the 3rd millennium B.C. Mrs. Gimbutas

132. European Archaeology: The Bronze Age. Prerequisite: course M131 or consent of the instructor. A survey of European cultures from around 3000 B.C. to the period of the destruction of the Mycenaean culture about 1200 B.C. The course covers the Aegean area and the rest of Europe. Mrs. Gimbutas

M150. Introduction to Indo-European Linguistics. (Same as Linguistics M150.) Prerequisite: one year of college-level study (course 3 or better, 8 units minimum) of either Greek or Latin and either German or Russian. A survey of the Indo-European languages from ancient to modern times; their relationships and their chief characteristics. Mr. Anttila

199. Special Studies. (½ to 2 courses) The Staff

Related Courses in Other Departments

Ancient Near East (Near Eastern Languages) 160A-160B. Introduction to Near Eastern Archaeology.

161A-161B-161C. Archaeology of Mesopotamia.

260. Seminar in Ancient Near Eastern Archaeology.

261. Practical Field Archaeology.

Anthropology 109A-109B. Old Stone Age Archaeology.

123A-123B. Origins of Old World Civilization.

175A. Strategy of Archaeology.

175B. Archaeological Research Techniques.

M175C. Dating Techniques in Environmental Sciences and Archaeology.

175E. Laboratory Analysis in Archaeology.

183. History of Archaeology.

230. Analytical Methods in Archaeological Studies.

232. Archaeology.

286. Selected Topics in Historical Reconstruction and Archaeology.

Archaeology 259. Field Work in Archaeology.

Armenian (Near Eastern Languages) 130A-130B. Elementary Classical Armenian.

131A-131B. Intermediate Classical Armenian.

132A-132B. Advanced Classical Armenian.

Classics 161. Introduction to Classical Mythology.

166A. Greek Religion.

166B. Roman Religion.

168. Introduction to Comparative Mythology.

180. Introduction to Classical Linguistics.

230A-230B. Language in Ancient Asia Minor (Hittite, Palaic, Luwian).

251A. Seminar in Classical Archaeology.

260. Seminar in Roman Religion.

268. Seminar in Comparative Mythology.

English M111D. Introduction to Celtic Folklore and Mythology.

M111E. Survey of Medieval Celtic Literature.

211. Old English.

216A-216B. Old Irish.

217A-217B. Medieval Welsh.

218. Celtic Linguistics.

Folklore M112. Survey of Medieval Celtic Literature.

M122. Introduction to Celtic Folklore and Mythology.

M126. Introduction to Baltic and Slavic Folklore and Mythology.

German 230. Survey of Germanic Philology.

231. Gothic.

232. Old High German.

233. Old Saxon.

M245A. Germanic Religions and Mythology.

245B. Germanic Antiquities.

252. Seminar in Historical and Comparative German Linguistics.

Greek (Classics) 240A-240B. History of the Greek Language.

242. Greek Dialects and Historical Grammar.

243. Mycenaean Greek.

Hindi (Linguistics) 171A-171B-171C. Hindi.

Iranian (Near Eastern Languages) 169. Civilization of Pre-Islamic Iran.

170. Religion in Ancient Iran.

190A-190B. Introduction to Modern Iranian Studies.

210A-210B. The History of the Persian Language.

M222A-222B. Vedic.

230A-230B. Old Iranian.

231A-231B. Middle Iranian.

Latin (Classics) 240. History of the Latin Language.

242. Italic Dialects and Latin Historical Grammar.

Linguistics 100. Introduction to Linguistics.

103. Introduction to General Phonetics.

110. Introduction to Historical Linguistics.

120A-120B. Linguistic Analysis.

160. History of Linguistics through the 19th Century.

202A. Linguistic Change: Phonology.

202B. Linguistic Change: Morpho-syntax.

225A. Linguistic Structures: Indo-European.

225E. Linguistic Structures: Indo-Aryan.

270. Historical Linguistics. Seminar.

Oriental Languages 160. Elementary Sanskrit.

161. Intermediate Sanskrit.

162. Advanced Sanskrit.

165. Readings in Sanskrit.

214A-214B. Pali and Prakrits.

221A-221B. Introduction to Panini's Grammar.

247. Selected Readings in Sanskrit Texts.

Scandinavian (Germanic Languages) 151. Elementary Old Icelandic.

152. Intermediate Old Icelandic.

M245. Scandinavian Mythology.

Semitics (Near Eastern Languages) 140A-140B. Elementary Akkadian.

141. Advanced Akkadian.

220A-220B. Ugaritic.

Slavic 177. Baltic Languages and Cultures.

M179. Introduction to Baltic and Slavic Folklore and Mythology.

201. Introduction to Old Church Slavic.

202. Introduction to Comparative Slavic Linguistics.

241A-241B. Advanced Old Church Slavic.

242. Comparative Slavic Linguistics.

251. Introduction to Baltic Linguistics.

Urdu (Near Eastern Languages) 101A-101B-101C. Elementary Urdu.

INTERDISCIPLINARY COLLOQUIA

Organized colloquia involving several disciplines are offered from time to time in conformity with faculty and student interests. They are open to all faculty members and to graduate students assigned to the colloquia by their advisers. Graduate credit is not awarded directly, but may be given through appropriate departmental courses.

For information about the Committees in charge of these colloquia, call the secretary of the Dean of the College of Letters and Science, 825-4453.

African Studies

The African Studies Center annually sponsors at least one inter-disciplinary colloquium on Africa. These colloquia focus on topics in the social sciences or humanities which cross disciplinary boundaries. Previous colloquia have dealt with such subjects as cultural pluralism, constraints on development and the adaptation of legal systems. It is the policy of the African Studies Center to organize its colloquia so that they can be taken for course credit at the graduate or undergraduate level or attended as open lectures. The inter-disciplinary colloquium for academic year 1980-1981 will be on the topic of Pre-colonial African Urbanism and will be held during the Fall Quarter. For further information about this and other African Studies Center inter-disciplinary colloquia, please contact the Assistant Graduate Advisor, Maxine Driggers at 825-2944.

The Jacob Marschak Interdisciplinary Colloquium on Mathematics in the Behavioral Sciences

Meetings are announced in the *UNIVERSITY CALENDAR*.

A colloquium on mathematics in the behavioral sciences will meet biweekly throughout the year. Papers presented and discussed in this colloquium use mathematical language to improve communication between behavioral sciences, and also between these sciences and other branches of knowledge.

ISLAMIC STUDIES (INTERDEPARTMENTAL)

For details of the undergraduate major, see Curriculum in Near Eastern Studies. Please refer also to information on the Major in Near Eastern Studies located in the Letters and Science section of this catalog.

ITALIAN

(Department Office, 340 Royce Hall)

Giovanni Cecchetti, Dottore in Lettere, *Professor of Italian.*
Fredi Chiappelli, Dottore in Lettere; Doct. Lett. "Honoris Causa", *Professor of Italian.*
Margherita Cottino-Jones, Ph.D., Dottore in Lettere, *Professor of Italian (Chairman of the Department).*
Pier-Maria Pasinetti, Ph.D., Dottore in Lettere, *Professor of Italian and Comparative Literature.*
Charles Speroni, Ph.D., *Emeritus Professor of Italian.*
Franco Betti, Ph.D., *Associate Professor of Italian.*
Franco Masciandaro, Ph.D., *Associate Professor of Italian (Upper Division Undergraduate Adviser).*
Edward F. Tuttle, Ph.D., *Associate Professor of Italian.*

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Mirella Cheeseman, Dottore in Legge, *Lecturer in Italian (Director of Language Instructon Program).*
Camilla Naham, Ph.D., *Lecturer in Italian.*
Althea Reynolds, B.A., *Lecturer in Italian (Lower Division Undergraduate Advisor).*
Lyn Richards, C.Ph., *Lecturer in Italian.*

The program of studies leading to the Bachelor of Arts in Italian consists of two distinct phases: preparation in the language, and study of the literature. While literature courses constitute the bulk of the program, a good knowledge of the language is a prerequisite to all upper division literature courses credited toward the Major in Italian. All degree programs are designed to give students the best possible preparation in the field at the appropriate level. The use of Italian is stressed at all levels of study. Detailed information on programs and specific degree requirements may be obtained in the department publication, *Programs in Italian Studies,* and in the office of the Department of Italian located in 340 Royce Hall.

Preparation for the Major

Courses 1, 2, 3, 4, 5, 6, and 25, or their equivalents are required.

The Major in Italian

Required: 14 Upper Division courses out of 16 courses regularly offered once every or every other academic year. Seven of these are required; specifically Italian 101, 102A-102B-102C, 113A-113B, 190; an additional seven are to be chosen from the other nine courses ranging from 114 through 122.

Strongly recommended: three upper division courses from other departments as follows: Classics 143 or 144, History 148A or 148B, and English 110. Recommended: Art 106A, 106B, or 106C; upper division courses in another literature and philosophy and a second language (Latin, French, Spanish or German) at least on level 3. All majors must organize their programs in consultation with department undergraduate adviser.

The Major in Italian and Special Fields

Preparation: Italian 1, 2, 3, 4, 5, and 6 or their equivalents are required, plus additional required courses associated with the field of specialization in consultation with the departmental undergraduate adviser.

Required: 14 Upper Division courses, seven of which must be in Italian. Italian 102A-102B-102C series is required, while the remaining four may be chosen from the other thirteen courses ranging from 113 through 122 as determined by the student's area of specialization. The other seven courses are to be chosen from offerings in another department, as determined by the field of specialization.

Study programs fulfilling requirements for the major in Italian and Special Fields have been developed with the Departments of Anthropology, Art History, Classics (Latin), English, French, History, Linguistics, Music, Political Science, and Theater Arts. Students should consult the Department of Italian undergraduate adviser for requirements in the various fields of specialization.

NOTE: Students participating in the major in Italian and Special Fields will be required to plan their study lists each quarter in consultation with the departmental undergraduate adviser. Courses will be assigned in accordance with the student's needs as determined by the area of specialization pursued. When consultation with an area adviser is deemed necessary, the study list will require his approval also. In certain cases, as many as two courses (8 units) on the graduate level may be applied toward the 14-course minimum requirements.

Study in Italy: Students are encouraged to spend up to one year in Italy either (a) to study with an education abroad program, or (b) to study in an Italian University. Students are also urged to take advantage of summer language workshops and study programs, either at American campuses or in Italy. Full credit will be granted according to the individual programs arranged in consultation with the Undergraduate adviser.

Honors Program: Majors with an over-all grade point average of 3.25, and a 3.5 grade-point average in Italian, or better, are eligible to participate in the Honors Program. Prerequisite: Italian 102 ABC. The candidates to this program will select three upper-division literature courses, in which additional readings are required. In the last quarter of the senior year, students are required to write a thesis on a subject related to one of the three abovementioned courses. The average for the three courses should not fall below A− Applications should be made during the last quarter of the junior year.

Lower Division Courses

Enrollment in the Italian open language laboratory is required of all students of Italian 1, 1A, 2, 2A, and 3. Enrollment in Italian culture sections is required of all students of Italian 2, 2A and 3 as the fifth hour of instruction for these courses.

1. Elementary Italian—Beginning. Sections meet five hours weekly plus one hour in the laboratory.
Mrs. Cheeseman in charge

1A. Elementary Italian—Accelerated. (2 courses) Sections meet ten hours weekly plus two hours in the laboratory. Designed for those students having the capacity and desire to learn the language at a much faster pace than normal. Encompasses material ordinarily intended for courses 1 and 2.
Mrs. Cheeseman in charge

2. Elementary Italian—Continued. Sections meet five hours weekly plus one hour in the laboratory. Prerequiste: course 1 or one year of high school Italian. Mrs. Cheeseman in charge

2A. Elementary Italian Accelerated (Continued). (2 courses) Sections meet ten hours weekly plus two hours in the laboratory. Prerequisite: Italian 2 or Italian 1A, or two years of high school Italian. Designed for those students having the capacity and desire to learn the language at a much faster pace than normal. Encompasses the material ordinarily intended for Italian 3 and Italian 4.
Mrs. Cheeseman in charge

3. Elementary Italian—Continued. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 2 or two years of high school Italian. Mrs. Cheeseman in charge

4. Intermediate Italian. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 3 or three years of high school Italian. Mrs. Cheeseman in charge

5. Intermediate Italian. Sections meet five hours weekly plus one hour in the laboratory. Prerequiste: course 4 or four years of high school Italian.
Mrs. Cheeseman in charge

6. Intermediate Italian. Sections meet five hours weekly plus one hour in the laboratory. Prerequisite: course 5. Mrs. Cheeseman in charge

8A-8B-8C. Italian Conversation. (½ course each) Sections meet two hours weekly. Prerequisite: permission of instructor. This sequence of courses is intended for students who have taken 3-6 quarters of language instruction and have developed considerable skills in Italian. Its purpose is to help the students to improve further their spoken proficiency through constant exposure and practice of the language. Each of these courses may be repeated once for credit. Ms. Reynolds in charge

25. Advanced Italian. Sections meet five hours weekly. Prerequisite: course 6. An advanced grammar and composition course with readings from select literary works.

Upper Division Courses

Sixteen quarter units in Italian or the equivalent are required for admission to any upper division course. Upper division courses for the Majors will be conducted in Italian and will all be 4 units courses and meet three hours weekly.

101. Preparation for Advanced Italian Studies. A course designed to acquaint Juniors with the research tools fundamental to the study of Italian culture. Will focus on how to find texts and collateral material, how to utilize bibliographies, dictionaries, encyclopedias, manuals and periodicals and how to proceed in literary analysis.
Mr. Chiappelli

102A-102B-102C. The Italian Cultural Experience. A study of the cultural development of Italy conducted especially with a view to contemporary situations.

102A. From the disruption of Roman unity to feudal and communal society and culture.

102B. From Renaissance civilization to the Baroque Age.

102C. Historical and cultural issues from the Age of Enlightenment to our day. The Staff

113A-113B. Dante's 'Divina Commedia'. This course focuses on the Divine Comedy. Selective readings from the text will be integrated with relevant information on scholasticism, classical tradition, medieval literature and poetics, and the sociopolitical structure of Dante's World.

113A. A General Introduction and Readings from *Inferno.*

113B. Readings from *Purgatorio* and *Paradiso.*
Mr. Cecchetti, Mr. Masciandaro

114A-114B. Italian Literature of the Middle Ages. Classes meet three hours weekly. Emphasis on "Stil Novo," Dante's minor works, Petrarch and Boccaccio. Mrs. Cottino-Jones, Mr. Tuttle

116A-116B. Italian Literature of the Renaissance. Emphasis on Lorenzo de'Medici, Poliziano, Castiglione, Machiavelli, Ariosto, Tasso.
Mr. Betti, Mr. Masciandaro

118. Italian Literature of the Eighteenth Century. Emphasis on Goldoni, Parini, Alfieri. Mr. Betti

119. Italian Literature on the 19th Century. This course surveys the 'Romantic Age' as it expresses values and national aspirations of 19th Century Italy. Emphasis is placed on the innovative approach to poetry as seen in the works of Foscolo and Leopardi, and to the socio-historical novel of Foscolo, Manzoni and Verga. Mr. Betti

120. Italian Literature of the Twentieth Century. Following a brief introduction to Italian literature after unification of the country, the course will concentrate on selected writers seen in their political, social, and artistic contexts. Mr. Cecchetti

121. Italian Cinema. A comparative study of specific literary works and their translations into films, and of the different techniques in the two forms of expression. Texts will include literary works, screenplays, and works on literary and film theory. The Staff

122. The Italian Theater. The course concentrates on what is alive today (read and performed) in the Italian theater. Texts will range from the Renaissance to the present. Mrs. Cottino-Jones

130. Advanced Grammar and Composition (Teaching). The Teaching of Italian Idiomatic Structure: Grammar. A study in depth of the idiomatic phenomena of the language from both the grammatical and syntactical points of view.
Mr. Chiappelli

131. Reading and Reciting. Prerequisite: consent of instructor based on sufficient knowledge of the language. Emphasis on diction, interpretation and performance of one-act plays as vehicles for perfection of pronunciation, comprehension and fluency.
Mrs. Reynolds

190. History of the Italian Language. Examines the main forces which have shaped literary or Standard Italian and specific ways in which the language has evolved. Traces its changing relations with other European languages, and surveys the effects wrought by historical events, changes in taste and altered social functions. Mr. Tuttle

199. Special Studies. (½ to 1 course) Prerequisite: consent of the instructor. A course of independent study for advanced undergraduates who wish to pursue a special research project under the direction and close supervision of a faculty member.
The Staff

NOTE: For key to symbols, see pages 65 and 66

Service Courses

No knowledge of Italian is required for these courses. No credit is given toward the major.

1G. Special Reading Course. (No credit) Class meets three hours weekly. Mainly designed for graduate students in other areas. The Staff

2G. Special Reading Course. (No credit) Class meets three hours weekly. Mainly designed for graduate students in other areas. The Staff

42A-42B. Italian Civilizations of Italy Through the Ages. (Formerly numbered 42A-42B-42C.) Lecture, three hours. A general survey of the history, literature, art, music and architecture audio-visually illustrated with emphasis on Italy's cultural contributions to Western Civilization. A service course designed to meet the breadth requirements.

42A. From the origins through the Renaissance. Mrs. Cottino-Jones, Mr. Tuttle

42B. From the Enlightenment to Modern Italy.

46A-46B-46C. Cinema and Italian Culture. Italy seen through the eyes of its great filmakers and writers. Major Italian films and literary works will be presented and discussed in their social and historical context.

46A. The period of "neo-realism" (1942-51) when Italian cinema gained international fame. The early films of Luchino Visconti, Roberto Rossellini and Vittorio De Sica. Readings include works by Giovanni Verga, Ignazio Silone, Vasio Tratolini and Carlo Levi.

46B. The films of the 1950's and early 1960's. Included are works by Federico Fellini, Luchino Visconti, Michelangelo Antonioni and Pier Paolo Pasolini. A special emphasis is given to Fellini, from his earliest works through the famous *La Dolce Vita.* Readings from Luigi Pirandello, Alberto Moravia and Pasolini.

46C. Italian cinema from the early 1960's to the present. Classics by Fellini, Antonioni, Pasolini, Bertolucci and others. Selections include *8½, Amarcord, Blow-Up, The Passenger, Decameron, The Conformist.* Readings from Boccaccio, Moravia, Tomasi di Lampadusa, etc. Mrs. Cottino-Jones in charge

50A-50B. Main Trends in Italian Literature.

50A. Italian Literature to the Baroque Period. A study of selected works of the major writers of the period, including Dante, Petrarch, Boccaccio, Ariosto, Machiavelli, Castiglione, Tasso, Bruno, Galileo, Marino.

50B. Italian Literature from 1700 to the Present. A study of selected works by the major writers of the period, including Vico, Parini, Alfieri, Foscolo, Leopardi, Manzoni, Verga, Pirandello, Svevo, Moravia, Ungaretti, Montale. The Staff

105. Tradition and Innovation in Italian Culture. Italy's basic social structures and cultural institutions are delineated through their historical development and as they are manifest in the stresses to which the industrializing state currently is subject. Mr. Tuttle

110A-110B. The Divine Comedy in English. Class meets three hours weekly. The Staff

M140. From Boccaccio to Basile (in English). (Same as Folklore M140.) Class meets three hours weekly. A study of the origins and the development of the Italian novella in its themes, in its structure, in its historical context, and in its European ramifications. The course is designed for students in other departments who wish to become acquainted with either the premises or the growth of similar literary genres. It is also intended for students majoring in Folklore and Mythology, who will be given an insight into Italian popular tales when these (as in the case of Boccaccio) were translated into highly sophisticated literary forms, as well as when (as in the case of Basile) they become embedded into the folk tradition of the Western world. Mrs. Cottino-Jones

150. Modern Italian Fiction in Translation. Class meets three hours weekly. The Staff

M158. Women in Italy. (Same as Women's Studies M158.) This course is designed with the intent of examining the role that women have played in Italian society. It will concentrate alternatively on the world of the Medieval and Renaissance "Matriarch" and on the "liberated" women of our times. Historical and political documents and also social and religious taboos will be presented and discussed together with other data derived from literature and art. Mrs. Cottino-Jones

JOURNALISM

(Department Office, 360 Kinsey)

Walter Wilcox, Ph.D., *Professor of Journalism (Chairman of the Department).*
Joseph A. Brandt, M.A. (Oxon.), B.Litt. (Oxon.) LL.D., *Emeritus Professor of Journalism.*
William W. Johnson, M.A., *Emeritus Professor of Journalism.*

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James H. Howard, M.A., *Emeritus Lecturer in Journalism.*
W. Lewis Perdue, B.S., *Lecturer in Journalism.*
Laurence J. Pett, B.A., *Lecturer in Journalism.*

Undergraduate Courses

The Department offers undergraduate courses, primarily upper division courses.

2. Fundamentals of Journalism. Lectures, field trips, and workshops. Survey of journalism principles and techniques.

101A. Reporting. Fundamentals of the news communication process.

101B. Photojournalism. Basic graphic arts illustration, and photo-journalism for the mass media.

112. The History of American Journalism. History of the news media and their ancillary agencies with special attention to the news and information function. Course emphasizes historical context, including the main forces in development of the free press and social responsibility concepts.

180. Radio and Television News. Lecture, two hours; laboratory, three hours. Prerequisite: course 2 or equivalent. Fundamentals of broadcast news; FCC regulations; network, station, and news agency problems and policies. Laboratory; exercises and experiments in preparing the newscast, with emphasis on television.

181. Reporting of Public Affairs. Prerequisite: course 2 or equivalent. Reporting governmental functions with emphasis upon judicial, legislative and administrative procedures at the city and county level.

182A. Magazine Writing. Analysis of the general magazine and of newspaper depth reportage. Writing non-fiction articles; research, style and structure.

182B. Magazine Writing. Continuation of course 182A. Prerequisite: course 182A or equivalent and consent of the instructor.

190. The Foreign Press. Analysis of the four theories of the press; study of the flow of international news; analysis of the foreign media including problems of propaganda, government control, language and economic support.

192. The Media of Mass Communications. Institutional analysis of the mass media with emphasis upon the press and broadcasting in the mass communications process; interaction with other institutions; critical evaluation.

193. The Press, the Law and the Constitution. Legal sanctions and constitutional freedoms affecting the printed and broadcast media.

195. The Critical Function of the Press. Analysis and evaluation of the press in its role as critic of the popular arts, including television, books and motion pictures. Special lectures by professional critics.

199. Individual Studies. (¼ to 1 course) Prerequisite: upper division status and consent of instructor. Individual study for upper division students wishing to do research on the performance of the news media and their relation to society. This course will permit upper division students to do research on the operation and/or influence of the mass media in areas of special interest. These areas may be coordinated with a student's major field or with various special community projects of the University. Students will be expected to develop their own study plan, execute either primary data collection or perform secondary analysis of existing data, and produce a study report. The Staff

KINESIOLOGY

(Department Office and Student Affairs Office, 206 Men's Gymnasium)

R. James Barnard, Ph.D., *Professor of Kinesiology.*
Camille Brown, Ed.D., *Professor of Kinesiology.*
Bryant J. Cratty, Ed.D., *Professor of Kinesiology.*
[16]V. Reggie Edgerton, Ph.D., *Professor of Kinesiology.*
Glen H. Egstrom, Ph.D., *Professor of Kinesiology.*
Gerald W. Gardner, Ph.D., *Professor of Kinesiology (Vice-Chairman of the Department).*
Valerie V. Hunt, Ed.D., *Professor of Kinesiology.*
Jack F. Keogh, Ed.D., *Professor of Kinesiology.*
Laurence E. Morehouse, Ph.D., *Professor of Kinesiology.*
[16]Judith L. Smith, Ph.D., *Professor of Kinesiology (Chair of the Department).*
Serena E. Arnold, Ed.D., *Emeritus Professor of Kinesiology.*
Rosalind Cassidy, Ed.D., *Emeritus Professor of Kinesiology.*
Donald T. Handy, Ed.D., *Emeritus Professor of Kinesiology.*
Wayne W. Massey, Ph.D., *Emeritus Professor of Kinesiology.*
Ben W. Miller, Ph.D., *Emeritus Professor of Kinesiology.*
Norman P. Miller, Ed.D., *Emeritus Professor of Kinesiology.*
Raymond A. Snyder, Ed.D., *Emeritus Professor of Kinesiology.*
Carl H. Young, Ed.D., *Emeritus Professor of Kinesiology.*
Marjorie E. Latchaw, Ph.D., *Associate Professor of Kinesiology.*
Robert J. Gregor, Ph.D., *Assistant Professor of Kinesiology.*
Tara K. Scanlan, Ph.D., *Assistant Professor of Kinesiology.*
Diane Shapiro, Ph.D., *Assistant Professor of Kinesiology.*
Ronald F. Zernicke, Ph.D., *Assistant Professor of Kinesiology.*

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Roland Roy, Ph.D., *Adjunct Assistant Professor of Kinesiology.*
Jeff H. Rahlmann, M.S., *Lecturer of Kinesiology.*
Norman D. Duncan, M.S., *Emeritus Supervisor of Kinesiology.*
Joan L. Martin, M.S., *Emeritus Supervisor of Kinesiology.*
William F. Pillich, M.S., *Emeritus Supervisor of Kinesiology.*
Orsie M. Thomson, M.A., *Emeritus Supervisor of Kinesiology.*

Bachelor's Degree in Kinesiology

Kinesiology is the study of the biochemical, morphological and general physiological responses of the human to exercise and environmental conditions; the description of movement and the neuromuscular and biomechanical determinants of motor performance; and the development, acquisition and modification of motor performance. The purpose of this study is intended to develop and integrate principles and concepts of human movement.

Pre-Kinesiology Major

All students intending to major in Kinesiology are identified as Pre-Kinesiology majors until the premajor requirements have been satisfied, and all students who complete these requirements prior to accumulating 120 units will be accepted into the Kinesiology major. The premajor is established to allow students to identify with the Kinesiology Department while completing courses in preparation for the major.

The Pre-Kinesiology major requirements are: Kinesiology 12 and 14; Chemistry 11A; Chemistry 15 and 15L (or Chemistry 11B for students emphasizing physiological kinesiology); Biology 5; Physics 3A (or 6A or 8A); one introductory statistics course; Psychology 10; and one additional introductory course from one of the following departments: Anthropology, Psychology, or Sociology.

Premajor courses outside the Department may be taken for a letter grade or on a P/NP basis; Kinesiology 12 and 14 must be taken for a letter grade. All premajor courses must be passed with a grade of C or better or a Pass.

Upon completion of premajor courses, students must petition for admission to the Kinesiology

major. Petitions are initiated through the Student Affairs Office in Men's Gym 206.

Students in the Kinesiology major or premajor must confer with the departmental counselor on a regular basis. Students who are interested in this major and who are transferring from another college or university should consult with the departmental counselor at least six months prior to the expected enrollment date at UCLA. This is to assist these students in meeting the departmental premajor requirements. Advisor appointments can be made in the Student Affairs Office, Men's Gym 206 (phone 825-3891).

Additional Preparation Courses for Students Emphasizing Physiological Kinesiology

In addition to the preparation courses required in the premajor, students emphasizing physiological kinesiology will be required to complete the following: Chemistry 11B, BL, 11C, CL; Chemistry 21, 23, 25; two quarters of calculus (Math 3A, 3B) and Biology 7. These courses do not constitute part of the premajor, but are requred for graduation with emphasis in physiological kinesiology.

Requirements of the Major

Required courses in the Department: 120, 120L, 122, 122L, 124, 124L, 126, 126L.

Upper Division Electives: A total of eight electives (32 units) are required. Six courses (24 units) must be taken in Kinesiology with at least one course in each content area. Area I – 115, 117, 118, 119; Area II – 132, 134A, 134B, 137, 139, 140, 145; Area III – 134C, 160, 165, 170A, 170B, 178. Non-area courses 105, 106, 191, 199, 199H may be selected, but courses 196A, 196B, and 400-level courses may not be used to satisfy the elective requirement for the major.

Two extradepartmental electives are required; a list of approved courses is available in the Student Affairs Office, MG 206.

A "C" average must be maintained in all upper division courses taken in the department. If the student fails to attain these minimal standards, dismissal from the major will be recommended. All upper division courses required for the major (including extradepartmental requirements) must be taken for a letter grade.

Honors in Kinesiology

Honors in Kinesiology are intended to recognize superior academic achievement and to encourage undergraduate students with distinguished scholastic records to conduct independent research. Requirements for admission to candidacy are the same as those required for admission to the Honors Program in the College of Letters and Science. *Honors in Kinesiology* are awarded at graduation to honor students who have achieved 3.5 or better in upper division Kinesiology courses, at least 9 of which must be completed at UCLA. *Highest Honors in Kinesiology* are awarded at graduation to honor students who have satisfactorily completed an honors research project (199H) and who have achieved at least 3.7 in upper division Kinesiology courses. Inquiries concerning Honors in Kinesiology should be directed to the Student Affairs Office, MG 206.

Departmental Scholar Program

Under the Departmental Scholar Program, honor students in Kinesiology (juniors and seniors) are permitted to pursue bachelor's and master's degree programs simultaneously. The Departmental Scholar must be provisionally admitted to the Graduate Division, and no course can be used to fulfill requirements for both degrees. The two degrees may be awarded simultaneously, but this is not a requirement of the program. The master's degree can be completed after the bachelor's degree has been awarded. Inquiries concerning the Departmental Scholar Program should be directed to the Student Affairs Office, MG 206.

Lower Division Courses

12. Introduction to Human Physiology. (1½ courses) Lecture, five hours; laboratory, three hours. Prerequisites: Biology 5 and Chemistry 15, 15L; or Chemistry 25; or Biology 7. An introduction to human physiology. The Staff

13. Introduction to Human Anatomy. (1½ courses) Lecture, four hours; laboratory, four hours. Prerequisites: A structural survey of the human body including the skeletomuscular, nervous, circulatory, respiratory, digestive, and genito-urinary systems. Laboratory includes examination of human cadaver specimens. Course is not intended for Kinesiology majors; combination of Kinesiology 13 and 14 will be equivalent to nine units. Mr. Rahlmann

14. Human Neuromuscular Anatomy. (1½ course) Lecture, four hours; laboratory, four hours. A thorough study of the skeletal, articular, muscular, and nervous systems. Special emphasis is placed on relating these body structures to human movement capabilities. Laboratory includes examination of prosected human cadaver specimens. Mr. Rahlmann

Upper Division Courses

120. Behavioral Bases of Movement. Prerequisites: Phychology 10 and an introductory course in statistics. An examination of motor performance and motor learning and the influence of selected physiological variables upon human movement. Ms. Scanlan, Ms. Shapiro

120L. Laboratory in Behavioral Bases of Movement. (¼ course) Must be taken concurrently with course 120. Ms. Scanlan, Ms. Shapiro

122. Biomechanical Bases of Movement. Prerequisites: courses 12 and 14; Physics 3A. Kinematic and kinetic principles underlying human movement focusing on the human neuromuscular and skeletal systems. Mr. Gregor, Mr. Zernicke

122L. Laboratory in Biomechanical Bases of Movement. (¼ course) Must be taken concurrently with course 122. Mr. Gregor, Mr. Zernicke

124. Cardiorespiratory Bases and Environmental Factors Affecting Movement. Prerequisites: courses 12 and 14. Response of the cardiovascular and respiratory systems to acute and chronic exercise, environmental stress and adaptation. Mr. Barnard, Mr. Egstrom, Mr. Gardner

124L. Laboratory in Cardiorespiratory Bases and Environmental Factors Affecting Movement. (¼ course) Must be taken concurrently with course 124. Mr. Barnard, Mr. Egstrom, Mr. Gardner

126. Neuromuscular and Metabolic Bases of Movement Prerequisites: courses 12 and 14. Metabolic, muscular and neural processes underlying movement and adaptation to exercise. Mr. Edgerton, Ms. Smith

126L. Laboratory in Neuromuscular and Metabolic Bases of Movement. (¼ course) Must be taken concurrently with course 126. Mr. Edgerton, Ms. Smith

Area 1: Biochemical, morphological, and general physiological adaptations of man to exercise and environmental conditions.

115. Aquatic Kinesiology. Lecture, three hours; laboratory, two hours. Prerequisites: courses 12 and 14 or consent of instructor. A study of man's adaptation to the aquatic environment. Mr. Egstrom

117. Conditioning for Maximum Performance. Prerequisites: courses 12, 14, 122, 122L; or consent of instructor. Study of factors and conditions accelerating and retarding levels of performance and work under various physiological and environmental conditions. Mr. Egstrom, Mr. Morehouse

118. Cellular Dynamics of Exercise. Prerequisites: courses 124, 124L, 126, 126L; Chemistry 11C, 11CL, or 15; or consent of instructor. Cellular responses to acute and chronic exercise. Mr. Edgerton

119. Laboratory Experimentation in Exercise Biology. Lecture, two hours; laboratory, six hours. Prerequisites: course 118 and consent of instructor. Assessment of biochemical properties of muscle and blood, histochemistry of muscle, physiological properties of muscular and cardiorespiratory systems during exercise. The Staff

Area II: Description of human movement and the neuromuscular and biomechanical determinants of motor performance.

132. Biomechanics of Musculoskeletal Injury. Prerequisites: courses 122, 122L and consent of instructor. Anatomical, physiological and mechanical characteristics of cartilaginous, fibrous, and bony tissues are examined in normal and abnormal stress situations. Connective tissue growth processes, normal physiology and repair mechanisms are analyzed in conjunction with musculoskeletal injuries and effects of exercise and physical activity. Mr. Zernicke

134A. Electromyographic Assessment. Lecture, three hours, laboratory, two hours. Prerequisities: courses 122, 122L. Techniques of electromyographic analysis combining theoretical aspects with laboratory experiences. Mr. Gregor

134B. Cinematographic Assessment. Lecture, three hours; laboratory, two hours. Prerequisites: course 122, 122L. High-speed motion picture films of human movement; techniques of data collection, analysis, and interpretation. The Staff

137. Therapeutic Exercise. Prerequisites: courses 122, 122L, 124, 124L, 126, 126L. The role of exercise in the improvement of movement in physically handicapped individuals. Care and prevention of athletic injuries. Mr. Gardner, Mr. Morehouse

139. Dissection Anatomy. Lecture, two hours; laboratory, six hours. Prerequisites: courses 122, 122L, and consent of the instructor. Study and dissection of upper and lower extremities of human cadavers; dissection of thorax and abdomen limited to musculature and neurovascular supply. The Staff

140. Mechanisms of Neuromuscular Control. Lecture, three hours; laboratory, two hours. Prerequisites: courses 12 and 14; Psychology 15 or 115 recommended. Neuromuscular mechanisms for the control of somatic muscles are covered in detail including skeletomotor and fusimotor systems and proprioceptive feedback necessary for motor control. Laboratory emphasizes neuroanatomy. Ms. Smith

***[1]145. Analysis of Expressive Movement.** Interpretation of the expressive aspects of human movement. Ms. Hunt

Area III: Development, acquisition and modification of human motor performance.

134C. Performance Assessment. Lecture, three hours; laboratory, two hours. Prerequiites: courses 120, 120L. Critical analysis of theoretical and practical aspects of assessment techniques as well as individual and group evaluation procedures. The Staff

160. Human Movement Development. Movement development throughout life with emphasis upon individual and societal determinants. Mr. Cratty, Mr. Keogh

165. Perceptual Motor Education. Prerequisites: courses 120, 120L; course 160 recommended. Movement problems of the minimally-neurologically handicapped with emphasis on the clumsy child syndrome. Mr. Cratty

***[1]170A-170B. Theoretical Aspects of Play, Leisure and Recreation.** A consideration of the historical development, philosophical concepts and social forces influencing leisure and recreation in American life. Ms. Arnold

178. Group Dynamics in Sport. Lecture, three hours; laboratory, two hours. Prerequisites: courses 120, 120L, or consent of instructor. Examination of group dynamics in sport. Topics

NOTE: For key to symbols, see pages 65 and 66

include: group productivity, group structure, leadership, motivational factors, cohesion, conflict. Ms. Scanlan

Other Courses

105. Movement Taxonomy and Composition. Lecture three hours; laboratory, two hours. Prerequisite: course 14. clarification and organization of movement concepts through the study of definition, classification, division and composition of human movement. Ms. Brown

106. Theories of Kinesiology. A study of ethical, logical and aestetic valuing in human movement and human development with special consideration given to traditional and modern approaches. Ms. Brown

191A-191B-191C. Proseminars in Kinesiology. Prerequisites: upper division standing and consent of the instructor. Enrollment is limited to 15 students, courses offer a unique opportunity for advanced study of special topics. Students may take more than one 191 course for major elective credit if appropriate to their course of study. Seminars may be taken in any order. Seminars A, B and C are related to topics in Areas I, II and III, respectively. The Staff

196A-196B. Laboratory Practicum in Kinesiology. (½ course) Laboratory, four hours. Prerequisites: course 139 (for A) and 119 (for B), which may be taken concurrently, and consent of instructor. Supervised practicum and training for advanced students who will serve as undergraduate assistants in the basic anatomy (A) or physiology (B) courses in the preparation of laboratory materials and innovative projects. This course may not be applied toward the major. The Staff

199. Special Studies in Kinesiology. (½ or 1 course) Prerequisites: last quarter junior or senior major in Kinesiology with an overall 3.0 GPA, and consent of the instructor and chairperson of the Department. A course application (available in MG 206) signed by the instructor shall be submitted to the chairperson on or before the first day of class. The course will be identified by a two-letter code using the initials of the sponsoring instructor (see Department for code). The number of units of 199 or 199H that an individual student may take toward an undergraduate degree is limited to 4 units toward the major and an additional 4 units toward the University graduation requirements, for a total of 8 units. Honor students may substitute 199H for the 199, but in no case can they exceed 4 units total of either 199 or 199H or any combination thereof to be applied toward the major. The Staff

199H. Special Studies—Honors. (½ or 1 course) Prerequisites: senior major in Kinesiology, achievement of College Honors status, at least a 3.5 GPA for the upper division required courses and two upper division electives in Kinesiology, and consent of instructor and chairperson of the Department. A course application (available in MG 206) signed by the instructor shall be submitted to the chairperson on or before the first day of class. The course will be identified by a two-letter code using the initials of the sponsoring instructor (see Department for code). The number of units of 199 or 199H that an individual student may take toward an undergraduate degree is limited to 4 units toward the major and an additional 4 units toward the University graduation requirements, for a total of 8 units. No student may exceed 4 units total of either 199 or 199H or any combination thereof to be applied toward the Kinesiology major. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

LATIN AMERICAN STUDIES (INTERDEPARTMENTAL)

(Office, 10347 Bunche Hall)

Rolando Armijo, M.D., M.P.H., *Professor of Epidemiology in Residence.*
Shirley L. Arora, Ph.D., *Professor of Spanish.*
John Belkin, Ph.D., *Professor of Biology.*
Ruben Benitez, Ph.D., *Professor of Spanish.*
Charles F. Bennett, Ph.D., *Professor of Geography.*
C. Rainer Berger, Ph.D., *Professor of Anthropology, Geography and Geophysics.*
William O. Bright, Ph.D., *Professor of Linguistics and Anthropology.*
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Robert N. Burr, Ph.D., *Professor of History.*
Bertram Bussell, Ph.D., *Professor of Engineering.*
C. Martin Duke, M.S., *Professor of Engineering.*
David K. Eiteman, Ph.D., *Professor of Finance.*
Howard Freeman, Ph.D., *Professor of Sociology.*
John Friedmann, Ph.D., *Professor of Planning.*
Edward Gonzalez, Ph.D., *Professor of Political Science.*
Claude L. Hulet, Ph.D., *Professor of Spanish and Portuguese.*
Derrick B. Jelliffe, M.D., D.T.M., D.C.H., *F.R.C.P., Professor of Public Health and Pediatrics.*
Kenneth L. Karst, LL.B., *Professor of Law.*
Thomas J. LaBelle, Ph.D., *Professor of Education.*
James Lockhart, Ph.D., *Professor of History.*
Robert H. Mason, Ph.D., *Professor of International Business.*
Clement W. Meighan, Ph.D., *Professor of Anthropology.*
Frank G. Mittelbach, M.A., *Professor of Management and Planning.*
Alfred K. Neumann, M.D. *Professor of Public Health in Residence.*
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Jonathan D. Sauer, Ph.D., *Professor of Geography.*
C.A. Schroeder, Ph.D., *Professor of Botany.*
Edward W. Soja, Ph.D., *Professor of Planning.*
David Stea, Ph.D., *Professor of Architecture/Urban Designand Urban Planning.*
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Yoshihiro Tsurumi, M.B.A., D.B.A., *Acting Professor of Management.*
Johannes Wilbert, Ph.D., *Professor of Anthropology.*
James W. Wilkie, Ph.D., *Professor of History.*
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J.A.C. Grant, Ph.D., LL.B. *Emeritus Professor of Political Science.*
B. Lamar Johnson, Ph.D., *Emeritus Professor of Education.*
Mildred E. Mathias, Ph.D., *Emeritus Professor of Botany.*
Anibal Sanchez-Reulet, Ph.D., *Emeritus Professor of Spanish.*
Ichak Adizes, Ph.D., *Associate Professor of Management.*
Theodore Anderson, Ph.D., *Associate Professor of Business Economics and Finance.*
Alfonso F. Cardenas, Ph.D., *Associate Professor of Engineering.*
Christopher Donnam, Ph.D., *Associate Professor of Anthropology.*
Leo Estrada, Ph.D., *Associate Professor of Planning.*
Pierre-Michel Fontaine, Ph.D., *Associate Professor of Political Science.*
Juan Gomez-Quinonez, Ph.D., *Associate Professor of History.*
John Hawkins, Ph.D., *Associate Professor of Education.*
Bruce H. Herrick, Ph.D., *Associate Professor of Economics.*
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David Kunzle, Ph.D., *Associate Professor of Art.*
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Gerardo Luzuriaga, Ph.D., *Associate Professor of Spanish.*
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Dwight W. Read, Ph.D., *Associate Professor of Anthropology.*
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Beatriz Arias, Ph.D., *Assistant Professor of Education.*
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Timothy Earle, Ph.D., *Assistant Professor of Anthropology.*
Ralph Frerichs, Ph.D., *Assistant Professor of Epidemiology.*
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Antonio Quicoli, Ph.D., *Assistant Professor of Spanish and Portuguese.*
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A. John Skirius, Ph.D., *Assistant Professor of Spanish.*
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Jaime Daza, M.A., *Associate in Linguistics.*
Eduardo Mayone Dias, Ph.D., *Lecturer in Spanish and Portuguese.*
Maria Duarte, C.Phil., *Lecturer in Portuguese.*
Elsie Ivanlich Dunin, M.A., *Lecturer in Dance.*
Kathleen B. Fischer, Ph.D., *Lecturer in Education and Latin American Studies.*
Teshome Gabriel, C.Phil., *Lecturer in Theater Arts.*
Carlos Haro, Ph.D., *Lecturer in Education.*
Ludwig Lauerhass, Jr., Ph.D., *Lecturer in History.*
Peter R. Nehemkis, LL.B., *Lecturer in International and Comparative Management.*
Jorge Preloran, Ph.D., *Lecturer in Theter Arts.*
Emilio Pulido-Huizar, B.A., *Associate in Dance.*
George L. Voyt, J.D., *Lecturer in Spanish.*

The Latin American Studies program, coordinated through UCLA's NDEA Latin American Studies Center, offers the Bachelor of Arts and Master of Arts degrees. Special aspects include articulated programs with professional masters and doctoral degrees.

Inter-departmental faculty committees are appointed annually to supervise and administer the B.A. and M.A. degrees in Latin American Studies.

The Bachelor's Degree in Latin American Studies

Undergraduate studies of the Latin American region are designed to serve the needs of (1) students desiring a general education focused on the Latin American cultural region; (2) students planning to enter business, government or international agency service; (3) students preparing to teach social science or language; and (4) students preparing for advanced academic study of Latin America.

For the undergraduate major in Latin American Studies, students must meet the requirements given in the university catalog for the academic year prior to the year of graduation.

Core Areas. Students choose one of three core areas as the focus of their major: Arts and Humanities; Social Sciences; or Ecology and Environmental. Requirements for each core area are listed below.

Major Language Requirements. Language requirements are uniform for all students in the major regardless of core area. Proficiency equivalent to (a) Spanish 25 and Portuguese 3 OR (b) Portuguese 25 and Spanish 5. In lieu of Portuguese 1-3, students may take Portuguese 102A-102B which is designed for students with a background in Spanish. An indigenous language of Latin America may be substituted for the minor language.

Core I; Arts and Humanities

Preparation. History 8A-8B; Latin American Studies 99; Spanish and Portuguese M44; Spanish 5 or Portuguese 3; Art 55, or Music 81K and Dance 71J.

Core Area. Ten upper division courses from the approved list and distributed as follows:

(a) *Core concentration.* Five courses from Literature and Folklore; or Fine Arts (Art, Music, Dance, Theater Arts); or Linguistics. No more than one course from the core area list of Electives may be applied to the core concentration.

(b) *Theory and methods.* One course from the core concentration list of *Theory and Methods* courses.

(c) *Internal breadth.* Four additional courses from the Arts and Humanities core area but outside of the core concentration. No more than two of these may be chosen from the list of Electives.

External Breadth. From the approved list, six upper division courses outside of the Arts and Humanities core area and distributed as follows: Two courses in each of three core concentrations such that at least one core concentration is chosen

from the Social Science core (e.g., history) and at least one is developed within the Ecology and Environment core (e.g., public health). No more than three external breadth courses may be chosen from *Electives*.

Core II. Social Sciences

Preparation. History 8A-8B; Latin American Studies 99; Economics 1-2 or Economics 100; Spanish 5 or Portuguese 3; Economics 40 or Sociology 18.

Core Area. Ten upper division courses from the approved list and distributed as follows:

(a) *Core concentration.* Five courses from Anthropology and Sociology; or Economics; or Geography; or History; or Political Science. No more than one course from the core area list of *Electives* may be applied to the core concentration.

(b) *Theory and methods.* One course from the core concentration list of *Theory and Methods* courses.

(c) *Internal breadth.* Four additional courses from the Social Sciences core area but outside of the core concentration. No more than two of these may be chosen from the list of *Electives*.

External Breadth. From the approved list, six upper division courses outside of the Social Sciences core area and distributed as follows: two courses in each of three core concentrations such that at least one core concentration is chosen from the Arts and Humanities core (e.g., fine arts) and at least one is developed within the Ecology and Environment core (e.g., public health). No more than three external breadth courses may be chosen from *Electives*.

III. Ecology and Environment

Preparation. History 8A-8B; Latin American Studies 99 or Geography 5; Math 50A; Engineering 10S; Spanish 5 or Portuguese 3.

Core Area. Ten upper division courses from the approved list and distributed as follows:

(a) *Core concentration.* Five courses from the core area, no more than one of which may be chosen from the core area list of *Electives*.

(b) *Theory and methods.* One course from the core area list of *Theory and Methods* courses.

(c) *Internal breadth.* Four additional courses from the Ecology and Environment core area; may be chosen from core courses, *Theory and Methods*, or *Electives*.

External breadth. From the approved list, six upper division courses outside of the Ecology and Environment core area and distributed as follows: two courses in each of three core concentrations such that at least one core concentration is chosen from the Arts and Humanities core (e.g., fine arts) and at least one is chosen from the Social Sciences core (e.g., history). No more than three external breadth courses may be chosen from *Electives*.

Course Limitations. No student may take more than 8 units of 199 for letter grade credit nor more than 8 units in any single term. No course taken on a Pass/Fail basis can be counted toward the major. In order to register in a 199 course, a student must have advanced junior standing and an overall GPA of 3.0, or senior standing.

Graduate Courses. Advanced undergraduates may enroll in graduate courses, with the professor's approval. Refer to graduate catalog.

Double Majors. Through judicious use of electives, students may find it possible to secure the B.A. degree with two majors, e.g., Latin American Studies and history. Interested students who have achieved junior class standing should consult the undergraduate advisers of both departments involved, initiating the appropriate petition with the undergraduate adviser in Latin American Studies.

Study in Latin America. Students are encouraged to spend up to one year in Latin America either (a) to study with an education abroad program; (b) to study in Latin American universities; (c) to conduct research; or (d) to complete an internship in an international or development agency. Full credit will be granted according to the individual programs arranged in consultation with the undergraduate adviser. Proposals must be presented in writing to the Interdepartmental Committee.

Departmental Scholar Program. Exceptionally promising undergraduate students may be nominated as Departmental Scholars to pursue bachelor's and master's degree programs simultaneously.

INTERDISCIPLINARY COURSES

99. Introduction to Latin American Problems. An interdisciplinary seminar for lower division students; enrollment limited to 15 students. Since this course is not a general survey and its content varies with each section, students will be permitted to repeat it for credit. The Staff

M155. Disease Problems of Socio-Economic and Political Impact in Latin America. (Same as Public Health M115.) Prerequisite: one upper division course in Latin American Studies Program. Social, economic, and political impact of important disease problems in Latin American countries. Mr. Work

199. Special Studies in Latin American Studies. (1 or 2 courses) Prerequisite: upper division standing. An intensive directed research program in which students conduct interdisciplinary research or complete an Internship with an international agency or program dealing with Latin America. Faculty sponsorship and written reports are required. The Staff

I Arts and Humanities Core

A. Literature and Folklore

Folklore M149. Folk Literature of the Hispanic World (same as Spanish M149).

History 169. Latin American Elitelore.

Portuguese 121A-121B. Survey of Brazilian Literature.

127. Colonial Brazilian Literature.

129. Romanticism in Brazil.

135. Naturalism, Realism and Parnasianism in Brazil.

137. Contemporary Brazilian Literature.

Spanish 121A-121B. Survey of Spanish American Literature.

137. The Literature of Colonial Spanish America.

139. 19th Century Spanish American Literature.

141. Mexican Literature.

142A. Spanish American Literature in the 20th Century: Poetry and Drama.

142B. Spanish American Literature in the 20th Century: Prose Fiction.

M149. Folk Literature of the Hispanic World (same as Folklore M149).

151. Folk Song in Spain and Spanish America.

160B. Hispanic Literature in Translation (not applicable to B.A. if major core is Arts and Humanities).

170B. Topics in Spanish American Literature (requires consent).

Theory and Methods

Folklore 101. Introduction to Folklore.

190. Selected Topics.

199. Special Studies.

Portuguese 199. Special Studies.

Spanish 119. Literary Analysis.

199. Special Studies.

B. Fine Arts

Art 117A. Advanced Studies in Pre-Columbian Art: Mexico.

117B. Advanced Studies in Pre-Columbian Art: Central America.

117C. Advanced Studies in Pre-Columbian Art: The Andes.

118B. The Arts of Pre-Columbian America.

Dance 146. Dance in Latin America.

171J. Dance of Mexico (½ course).

Music 131A-131B. Music of Hispanic America.

157. Music of Brazil.

Theater Arts 106C. History of African, Asian and Latin American Film.

Theory and Methods

Anthropology 144. Aesthetic Anthropology.

178A-C. Museum Studies.

179. Ethnography on Film.

Art 199. Special Studies.

Dance 199. Special Studies.

Music M180. Analytic Approaches to Folk Music (same as Folklore M180).

190A-B. Proseminar in Ethnomusicology.

199. Special Studies.

Theater Arts 199. Special Studies.

C. Linguistics

Spanish 100. Phonology and Pronunciation.

103. Syntax.

115. Applied Linguistics.

M118. History of the Spanish and Portuguese Languages.

119. Literary Analysis.

170C. Topics in Hispanic Linguistics (requires consent).

Portuguese 100. Phonology and Pronunciation.

103. Syntax.

M118. History of the Spanish and Portuguese Languages.

Theory and Methods

Anthropology 177A-B. Field Methods in Linguistic Anthropology.

Linguistics 100. Introduction to Linguistics.

103. Introduction to General Phonetics.

110. Introduction to Historical Linguistics.

120A. Linguistic Analysis: Phonology.

120B. Linguistic Analysis: Grammar.

164. Modern Theories of Language.

165A. Linguistic Theory: Phonology.

165B. Linguistic Theory: Grammar

170. Language and Society: Introduction to Sociolinguistics.

199. Special Studies.

Spanish 199. Special Studies.

Portuguese 199. Special Studies.

D. Electives

Anthropology M146. Language in Culture (same as Linguistics M146).

Folklore 118. Folk Art and Technology.

Latin American Studies 199. Special Studies.

Music M154A-B. The Afro-American Musical Heritage.

Philosophy 190. Third World Political Thought.

Theater Arts 112. Film and Social Change.

II. Social Sciences Core

A. Anthropology and Sociology

Anthropology 105A. Peoples of South America.

105B. Peoples of Middle America.

105C. Latin America Societies.

123C. Ancient Civilizations of Western Middle America (Nahuatl Sphere).

123D. Ancient Civilizations of Eastern Middle America (Maya Sphere).

NOTE: For key to symbols, see pages 65 and 66

123E. Ancient Civilizations of Andean South America.

Sociology 131. Latin American Societies.

Theory and Methods

Anthropology 170A-C. Field Training.

172. Methods and Techniques of Ethnohistory.

173A-B. Research Design and Quantitative Procedures.

174. Laboratory Methods in Technology and Inventions.

175A. Strategy of Archaeology.

175B. Archaeological Research Techniques.

M175C. Dating Techniques in Environmental Sciences and Archaeology (same as Geography M178).

175E. Laboratory Analysis in Archaeology.

M176. Laboratory for Naturalistic Observations: Developing Skill and Techniques.

178A-B. Museum Studies.

179. Ethnography on Film.

199. Special Studies.

Sociology 109. Introduction to Sociological Research Methods.

115. Experimentation and Laboratory Methodology in Sociology.

116. Introduction to Mathematical Sociology.

199. Special Studies.

B. Economics

Economics 110. Economic Problems of Underdeveloped Countries.

111. Theories of Economic Growth and Development.

112. Policies for Economic Development.

190. International Economics.

191. International Trade Theory.

192. International Finance.

Theory and Methods

Economics 103. Applications of Economic Theory.

M135. Economic Models of the Political Process.

199. Special Studies.

Management 116A-B. Statistical Methods: Decision and Analysis.

197. Special Topics.

199. Special Studies.

C. History

History 165A-165B. Colonial Latin America.

166. Latin America in the 19th Century.

167A-167B. Latin America in the 20th Century.

168. History of Latin American International Relations.

169. Latin American Elitelore.

170. Topics in Latin American Cultural History Since 1900.

171. The Mexican Revolution since 1910.

173. The History of Brazil.

174. Brazilian Intellectual History.

197. Undergraduate Colloquia: Latin America.

198Z. History of Argentina.

Theory and Methods

101. Introduction to Historical Practice.

199. Special Studies.

Political Science 102. Statistical Analysis of Political Data.

104A-B. Introduction to Survey Research.

D. Political Science

Political Science 131. Latin American International Relations.

139. Special Studies in International Relations: Latin America.

149. Special Studies in Politics: Latin America.

163A-B. Government and Politics in Latin America.

169. Special Studies in Comparative Government: Latin America.

197B. Proseminar: Latin America.

199. Readings in Political Science: Latin America.

Theory and Methods

Political Science 102. Statistical Analysis of Political Data.

M103. Economic Models of the Political Process (same as Econ. M135).

104A-B. Introduction to Survey Research.

119. Special Studies in Political Theory.

137. International Relations Theory.

146. Political Behavior Analysis.

168S. Comparative Political Analysis.

E. Geography

Geography 121. Conservation of Resources: Underdeveloped World.

128. The World's Ecosystems: Problems and Issues.

181. Middle America.

182A. Spanish South America.

182B. Brazil.

Theory and Methods

Geography 170. Presentation and Analysis of Geographic Data.

171. Quantitative Analysis.

F. Electives

Anthropology 119. Cultural Stability and Cultural Change.

122A. Comparative Society.

122C. Technology and Environment.

153. Economic Anthropology.

160. Urban Anthropology.

161. Development Anthropology.

163. Women in Culture and Society.

Economics 120. Introduction to Urban and Regional Economics.

121. Urban Economic Analysis.

180. Comparative Economic Systems.

Geography M102. Geomorphology (same as AUP M196).

118. Medical Geography.

129. Problems of the Environment - Seminar.

140. Political Geography.

142. Population Geography.

148. Economic Geography.

152. World Cities.

Latin American Studies 199.

Political Science 123. International Organization and Administration.

124. International Political Economy.

167. Ideololgy and Development in World Politics.

183. Administration of International Agencies and Programs.

188A. Comparative Public Administration.

188B. Comparative Urban Government.

191. Urban and Regional Planning and Development.

Sociology 120. Social Change.

123. Social Stratification.

126. Social Demography.

140. Political Sociology.

III. Ecology and Environment Core

Geography 121. Conservation of Resources: Underdeveloped World.

128. The World's Ecosystems: Problems and Issues.

181. Middle America.

182A. Spanish South America.

182B. Brazil.

Public Health 174E. Health, Disease and Health Services in Latin America.

175. Health Care Issues in International Perspective.

186. The World's Population and Food.

Theory and Methods

Anthropology 174. Laboratory Methods in Technology and Invention.

Geography 170. Presentation and Analysis of Geographic Data.

171. Quantitative Analysis.

Public Health 100A-C. Introduction to Biostatistics.

102. Demography.

181. Introduction to Social Research Methods in Health.

Electives

Anthropology 122C. Technology and Environment.

153. Economic Anthropology.

156. Cultural Ecology.

160. Urban Anthropology.

Econmics 120. Introduction to Urban and Regional Economics.

Geography M102. Geomorphology (same as AUP M196).

118. Medical Geography.

129. Problems of the Environment - Seminar.

140. Political Geography.

142. Population Geography.

148. Economic Geography.

152. World Cities.

Public Health 161. Nutrition and Health (½ course).

173. Population, Ecology and Health.

Sociology 126. Social Demography.

Latin American Studies 199. Special Studies.

LIBRARY AND INFORMATION SCIENCE

(Department Office, 120 Powell Library Building)

The department of Library and Information Science does not offer an undergraduate degree. For detailed information on degrees offered by this department, please consult the Graduate Catalog.

LINGUISTICS

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Victoria A. Fromkin, Ph.D., *Professor of Linguistics.*
Talmy Givón, Ph.D., *Professor of Linguistics and African Languages.*
Edward L. Keenan, Ph.D., *Professor of Linguistics.*
Peter Ladefoged, Ph.D., *Professor of Phonetics.*
Paul M. Schachter, Ph.D., *Professor of Linguistics.*
Robert P. Stockwell, Ph.D., *Professor of Linguistics.*
Sandra A. Thompson, Ph.D., *Professor of Linguistics.*
William E. Welmers, Ph.D., *Professor of Linguistics and African Languages.*
George D. Bedell, Ph.D., *Associate Professor of Linguistics.*

Mazisi R. Kunene, M.A., *Associate Professor of African Languages and Literature.*
Pamela L. Munro, Ph.D., *Associate Professor of Linguistics.*
Russell G. Schuh, Ph.D., *Associate Professor of Linguistics and African Languages.*
Thomas J. Hinnebusch, Ph.D., *Assistant Professor of Linguistics and African Languages.*

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Roger W. Andersen, Ph.D., *Visiting Assistant Professor of English.*
Christiane A. M. Baltaxe, Ph.D., *Assistant Professor of Psychiatry in Residence.*
Henrik Birnbaum, Ph.D., *Professor of Slavic Languages.*
J. Donald Bowen, Ph.D., *Professor of English.*
Giorgio Buccellati, Ph.D., *Professor of Ancient Near East.*
Russell N. Campbell, Ph.D., *Professor of English.*
Edward C. Carterette, Ph.D., *Professor of Psychology.*
Marianne Celce-Murcia, Ph.D., *Associate Professor of English.*
Kenneth G. Chapman, Ph.D., *Professor of Scandinavian Languages.*
Keith S. Donnellan, Ph.D., *Professor of Philosophy.*
Christopher Ehret, Ph.D., *Professor of History.*
Michael S. Flier, Ph.D., *Professor of Slavic Languages.*
Jose Galvan, Ph.D., *Lecturer in English.*
Patricia M. Greenfield, Ph.D., *Professor of Psychology.*
Evelyn R. Hatch, Ph.D., *Associate Professor of English.*
Frances B. Hinofotis, Ph.D., *Assistant Professor of English.*
Robert S. Kirsner, Ph.D., *Associate Professor of Dutch-Flemish and Afrikaans.*
Paul V. Kroskrity, Ph.D., *Assistant Professor of Anthropology.*
Wolf Leslau, Docteur-ès-Lettres, *Emeritus Professor of Hebrew and Semitic Linguistics.*
Bengt Lofstedt, Ph.D., *Professor of Medieval Latin.*
Donald G. MacKay, Ph.D., *Associate Professor of Psychology.*
Lois McIntosh, Ph.D., *Emeritus Professor of English.*
Claudia Mitchell-Kernan, Ph.D., *Associate Professor of Anthropology.*
Michael Moerman, Ph.D., *Professor of Anthropology.*
C.P. Otero, Ph.D., *Professor of Spanish and Romance Linguistics.*
Thomas G. Penchoen, Ph.D., *Associate Professor of Near Eastern Languages.*
Clifford H. Prator, Ph.D., *Emeritus Professor of English.*
Jaan Puhvel, Ph.D., *Professor of Indo-European Studies.*
A. Carlos Quicoli, Ph.D., *Assistant Professor Portuguese.*
Earl Rand, Ph.D., *Associate Professor of English.*
Emanuel A. Schegloff, Ph.D., *Professor of Sociology.*
John A. Schumann, Ph.D., *Associate Professor of English.*
Michael Shapiro, Ph.D., *Professor of Russian Linguistics and Poetics.*
Alan H. Timberlake, Ph.D., *Associate Professor of Slavic Languages.*
Terence H. Wilbur, Ph.D., *Professor of German.*
Dean S. Worth, Ph.D., *Professor of Slavic Languages.*

Undergraduate Majors

The majors described below are of three types: (1) a major which concentrates entirely on general linguistics; (2) several majors which combine the basic courses of the general program with a language concentration or other related fields; and (3) a major which concentrates entirely on an African language area. The combined majors in conjunction with teacher certification programs are especially appropriate for students who have non-university teaching careers as goals; and the African major is for students with specific African interests.

The Major in Linguistics

This major should be elected only by students with an exceptional interest in and aptitude for the study of languages and linguistics. It enables the undergraduate to gain substantial familiarity with several languages and types of linguistic structure, and to become conversant with the historical study of language and formal theories of linguistics.

Preparation for the Major. In the lower division, in addition to the general University requirements, the student must complete the equivalent of the sixth quarter of work in two foreign languages, or the sixth quarter in one language and the third quarter in each of two others. In addition the student must take Linguistics 1 and two of the following three courses: Philosophy 31, Psychology 10, one course in Cultural Anthropology.

Requirements for the Major. A minimum of eleven upper division or graduate courses which must include Linguistics 100, 103, 110, 120A, 120B, and either 164 or both 165A and 165B (the 165A-165B option is recommended for students planning to go into Linguistics graduate work); the other five courses are electives, three of which must be upper division Linguistics courses, to be selected by the student subject to the approval of his adviser. These electives have typically been selected from the following list, though it is not exhaustive: Linguistics 104, 125, 127, 130, M135, 140, 145, M146, M150, 160, 165A, 165B, 170, 172, 175, 180, 195, 199 (if four units), African Languages 190, Anthropology 177B, Indo-European Studies 160, 161, 162, Philosophy 127A, 127B, 172, Psychology 122, 123, English 121, 122, 123; or advanced courses in a foreign language or literature (those beyond the sixth quarter of language instruction). In addition to the eleven upper division courses, at least three courses (which may be either upper or lower division) are required in a language other than those in the Romance, Slavic, or Germanic families. These courses may be applied toward fulfillment of the foreign language requirement described above under *Preparation for the Major.* A student who completes an advanced language course is considered to have completed the equivalent of whatever courses are prerequisite to that one: e.g., if he completes French 101, he has automatically satisfied the requirement of the sixth quarter of work in one language. 165A-165B and 195 are recommended for students planning to pursue graduate work in linguistics at UCLA.

To enroll in Linguistics 195, the student must consult with the department's Senior Essay Counselor.

Honors in Linguistics

Honors in Linguistics will be awarded at graduation to those students who have a grade point average of 3.6 or better in their Junior or Senior years and who have received a grade of A in Linguistics 195.

The Major in Linguistics and Computer Science

Preparation for the Major. Linguistics 1, Engineering 10C, Computer Science 20, 30, Philosophy 31; completion of the sixth quarter in a foreign language, and the third quarter in a second foreign language.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 104, 120A, 120B, 164, 180, and two upper division electives in Linguistics; and Computer Science 111, M123B, 131, 132, 141.

The Major in Linguistics and English

Preparation for the Major. Linguistics 1; English 3, 10A, 10B, 10C; Philosophy 31; completion of the sixth quarter of work in two foreign languages, or the sixth quarter in one foreign language and the third quarter in each of two other foreign languages.

Requirements for the Major. Fifteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two upper division electives from other Linguistics courses or English 123; and English 121, 122, 140, and four electives chosen from 141, 142A, 142B, 143, the 150 series (one course only), the 160 series (one course only), the 170 series (one course only).

The Major in Linguistics and French

Preparation for the Major. Linguistics 1; French 1-6, 12, 15; and completion of the sixth quarter of work in one other foreign language or the third quarter in each of two other foreign languages.

Requirements for the Major. Sixteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two upper division electives in Linguistics; and French 100A, 100B, 100C, 103, 105, 106, and two elective upper division literature courses.

The Major in Linguistics and Italian

Preparation for the Major. Linguistics 1, Italian 1-6, Latin 1-3, and completion of the third quarter in another foreign language, or the sixth quarter in Latin; Philosophy 31; and one course in Cultural Anthropology.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two upper division electives in Linguistics; and Italian 102A, 130A, 130B, and three additional upper division electives in Italian.

The Major in Linguistics and Oriental Languages

Preparation for the Major. Completion of the sixth quarter in either Chinese or Japanese; Linguistics 1; Philosophy 31; one course in Cultural Anthropology; either Oriental Languages 40A or Oriental Languages 40B, as appropriate; and completion of the sixth quarter in another foreign language, or the third in each of two others.

Requirements for the Major. Linguistics 100, 103, 110, 120A, 120B, 164, and one upper division elective in Linguistics; and for the classical Japanese track: Oriental Languages 119A, 119B, 129, 137, 175, 179A, 179B; for the modern Japanese track: Oriental Languages 119A, 119B, 175, and four courses chosen from 134A, 134B, 142A, 142B, 145, 153A, 153B; for the classical Chinese track: Oriental Languages 13A, 13B, 13C, 113A, 113B, and two courses chosen from 152A, 152B, 163A, 163B, 163C; for the modern Chinese track: Oriental Languages 121A, 121B, 121C, and four courses chosen from 122A, 122B, 124A, 124C, 126, 151.

The Major in Linguistics and Philosophy

Preparation for the Major. Linguistics 1; Philosophy 31 and two out of Philosophy 1, 6, 7, 21; completion of the sixth quarter in each of two foreign languages or the sixth quarter in one language and the third quarter in each of two others.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B, 164, 165B, and two upper division electives in Linguistics; and six upper division courses in Philosophy including at least five from 125-135, 170-174, and 184-188, of which at least two must be from 127A, 127B, and 172.

The Major in Linguistics and Psychology

Preparation for the Major. Linguistics 1; Psychology 10, 41; and completion of the sixth quarter in a foreign language and the third quarter in a second foreign language. Engineering 10 strongly recommended.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 120A, 120B, 130, 195, and two upper division electives in Linguistics; and Psychology 100, 110, 120; 122 or 123; 130; and the remaining elective to be chosen from 112, 115, 116, 124, 135, 137 (½ course). Psychology 115 strongly recommended.

The Major in Linguistics and Scandinavian Languages

Preparation for the Major. Linguistics 1; Scandinavian 1-5 or 11-15 or 21-25; Scandinavian 30; and completion of the sixth quarter in one other foreign language or the third quarter in each of two other foreign languages.

Requirements for the Major. Fourteen upper division courses as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two upper division electives in Linguistics; Scandinavian 105 and 106 or 110 twice; Scandinavian 199 (in a topic related to Scandinavian linguistics, under the direction of a Scandinavian or Linguistics faculty member); and three upper division electives in Scandinavian.

The Major in Linguistics and Spanish

Preparation for the Major. Linguistics 1; Spanish 1-5, 25, M42, M44; and completion of a sixth quarter of work in one other foreign language, or the third quarter in each of two other foreign languages.

Requirements for the Major. Fifteen upper division courses distributed as follows: Linguistics 100, 103, 110, 120A, 120B, 164, and two additional upper division courses in Linguistics, preferably 130 and 170; and Spanish 100, 103, 115 or 118, 119, and three additional upper division courses in Spanish.

The Major in African Languages

Preparation for the Major. In the lower division, in addition to the general University requirements, the student must complete Linguistics 1 and nine courses in African Languages (111-143, 199), six in one language and three in another.

NOTE: For key to symbols, see pages 65 and 66

Requirements for the Major. A minimum of fifteen upper division courses which must include three upper division courses in an African language; African Languages 150A, 150B, 190, 192, Linguistics 100, 103; and three courses selected from Anthropology 107A, 107B, English 114, 123, Geography 189, History 125A, 125B, 125C, 126A, 126B, 127A, 127B, 128A, 128B, Linguistics 110, 120A, 120B, 140, M146, 170, Music 143A, 143B, Political Science 166A, 166B, 166C, 166D. Completion of the sixth quarter in one of the following non-African languages is strongly recommended: French, Dutch-Flemish-Afrikaans, German, Portuguese, Arabic.

General Linguistics

Lower Division Courses

1. Introduction to the Study of Language. A summary, for the general undergraduate, of what is known about human language; the unique nature of human language, its structure, its universality, and its diversity; language in its social and cultural setting; language in relation to other aspects of human inquiry and knowledge. The Staff

2. Language and Social Issues. Prerequisite: course 1 or consent of instructor. A survey of linguistic problems that have social or political importance. Topics to be discussed include minority languages and dialects (particularly "Black English" and Chicano-American), bilingualism, literacy, second-language education, and language standardization in developing and developed nations. The Staff

4. Introduction to Native American Languages. This course will survey the native languages of North America, concentrating on languages of California and nearby areas. The characteristics of American Indian languages in general and of particular languages selected by the instructor will be considered, especially in terms of their relationship to Indian culture, both traditional and modern, and to attitudes of Indians and others about these languages. Mr. Bright, Ms. Munro

5. Language in Africa. A survey of the languages spoken in Africa and their social and cultural context; languages found on the African continent; history of African language study; literature in African languages; African languages in the mass media; language policy and planning in modern Africa. The Staff

Upper Division Courses

100. Introduction to Linguistics. An introduction to the theory and methods of linguistics: univeral properties of human language; phonetic, phonological, morphological, syntactic, and semantic structures and analysis; the nature and form of grammar. The Staff

103. Introduction to General Phonetics. Prerequisite: course 100 or equivalent (100 may be taken concurrently with 103). The phonetics of a variety of languages and the phonetic phenomena that occur in languages of the world. Extensive practice in the perception and production of such phenomena. A special section emphasizes those languages likely to be of interest to teachers of English as a Second Language. The Staff

104. Experimental Phonetics. Prerequisite: course 103. Survey of the principal techniques of experimental phonetics. Use of laboratory equipment for recording and measuring phonetic phenomena.
Mr. Anderson, Ms. Fromkin, Mr. Ladefoged

110. Introduction to Historical Linguistics. Prerequisite: courses 100 and 103. The methods and theories appropriate to the historical study of language, such as the comparative method and method of internal reconstruction. Sound change, grammatical change, semantic change.
Mr. Anttila, Mr. Schuh, Mr. Stockwell

120A. Linguistic Analysis: Phonology. Prerequisite: courses 100 and 103. Course 120A is not prerequisite to 120B. Descriptive analysis of phonological structures in natural languages; emphasis on insight into the nature of such structures rather than linguistic formalization.
Mr. Anderson, Mr. Bedell, Mr. Bright

120B. Linguistic Analysis: Grammar. Prerequisite: course 100; course 120A is not prerequisite to 120B. Descriptive analysis of morphological and syntactic structures in natural languages; emphasis on insight into the nature of such structures rather than linguistic formalization.
Mr. Bright, Ms. Thompson

125. Semantics. Prerequisite: course 120B. A survey of the most important theoretical and descriptive claims about the nature of meaning.
Mr. Keenan, Ms. Thompson

127. Syntactic Typology and Universals. Prerequisite: course 120B. A study of the essential similarities and differences among languages in the grammatical devices they use to signal the following kinds of concepts: relations between nouns and verbs (case and word order), negation, comparison, existence/location/possession, causation, interrogation, reflexivization, relativization, attribution (adjectives), time (tense and aspect), and backgrounding (subordination). Data from a range of languages will be presented and analyzed.
Mr. Givon, Mr. Keenan, Ms. Thompson

130. Child Language Acquisition: Introduction. Prerequisite: courses 100, 120A-120B or consent of instructor. A survey of contemporary research and theoretical perspectives in the acquisition of language. Emphasis on linguistic interpretation of existing data with some attention to relationship with second language learning, cognitive development, and other topics. Includes discussion of acquisition of English and other languages, and universals of linguistic development. The Staff

131. Child Language Acquisition (for non-majors). Prerequisite: course 1 strongly recommended. A survey of current knowledge of the acquisition of a first language by children, including some general processes of language learning and some specific cases from several languages. Some attention to animal communication, relation between language learning and teaching. Not open to Linguistics majors or Linguistics graduate students.
The Staff

M135. Introduction to Developmental Disabilities of Language. (Same as Psychiatry and Biobehavioral Sciences M135.) Prerequisites: Linguistics 1 or 100 and 130 or 131 or consent of instructor. Introduction to the field of language disorders of children. The course will deal primarily with some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other will be examined. Such questions as the relationship of cognition to linguistic ability will be considered. Concurrently scheduled with Psychiatry M237/Linguistics M235. Graduate students will be expected to apply more sophisiticated knowledge and produce a research paper of greather depth. Ms. Needleman

140. Linguistics in Relation to Language Teaching. Prerequisite: course 100. Aspects of linguistics in relation to the teaching of language with particular focus on the special problems entailed in the teaching of non-European languages. Mr. Stockwell

***145. Introduction to Computation in Linguistics.** Prerequisite: courses 100, 120A-120B. Introduction to the uses to which computers are put in linguistics and to such applications as mechanical translation and information retrieval; development of basic familiarity with programming and programming languages for linguistics purposes.
The Staff

M146. Language in Culture. (Same as Anthropology M146.) Prerequisite: course 1 or Anthropology 177A-177B. The study of language as an aspect of culture; the relation of habitual thought and behavior to language; the problem of meaning. Mr. Bright, Mr. Kroskrity

M150. Introduction to Indo-European Linguistics. (Same as Indo-European Studies M150.) Prerequisite: one year of college level study (course 3 or better, 8 units minimum) of either Greek or Latin and either German or Russian. A survey of the Indo-European languages from ancient to modern times; their relationships and their chief characteristics. Mr. Anttila

160. History of Linguistics Through the 19th Century. Prerequisite: courses 120A-120B. Historical survey of the development of linguistics from Panini through the 19th century, including approaches to grammar, phonology, and language universals.
Mr. Anttila, Mr. Bedell, Ms. Fromkin

164. Modern Theories of Language. Prerequisites: courses 120A and 120B. A critical and historical survey of some of the central claims and types of supporting evidence put forward by transformational theory and by at least one other influential school of contemporary linguistics. About one-third of the course deals with phonology, the remainder with syntax and semantics. The Staff

165A. Linguistic Theory: Phonology. Prerequisite: course 120A. The theory of generative phonology; the form of phonological rules, formal and substantive phonological universals. Not open to students who have taken course 164.
Mr. Anderson, Mr. Bedell, Ms. Fromkin

165B. Linguistic Theory: Grammar. Prerequisite: course 120B. The form of grammars; word formation and sentence formation; formal and substantive universals in syntax; relation between syntax and semantics. Not open to students who have taken course 164. Mr. Schachter, Ms. Thompson

170. Language and Society: Introduction to Sociolinguistics. Prerequisite: course 100 or consent of instructor. Study of the patterned covariation of language and society; social dialects and social styles in language; problems of multilingual societies. Mr. Bright

172. African Languages in the Diaspora. Prerequisite: any one course in Linguistics or African Languages, or consent of instructor. A close look at the major structures of African languages and their influence on Pidgins, Creoles, and Afro-American English. Illustrations will be given from African languages, West African Pidgin English, Krio, Creoles (Jamaican, French, Brazilian, South American), and Afro-American English.
The Staff

175. Linguistic Change in English. Prerequisite: courses 110, 120A, 120B. Principles of linguistic change as exemplified through a detailed study of the history of English pronunciation, lexicon, and syntax. Mr. Stockwell

180. Mathematical Backgrounds for Linguistics. Prerequisite: courses 120A, 120B. Introduction to selected topics in set theory, logic and formal systems, modern algebra, and automata theory, with elementary applications to linguistics. In any given quarter one or more of these topics may be emphasized. No previous mathematics assumed.
Mr. Keenan

195. Senior Essay. Prerequisite: consent of instructor; open only to Linguistics majors in their senior year. An extended piece of writing will be undertaken on a linguistic topic selected by the student to be completed under the supervision of a member of the faculty in Linguistics (either Linguistics Department or, as appropriate, some faculty of other departments). To enroll in this course the student must consult the professor in charge. The Staff

199. Special Studies in Linguistics. (½ to 1 course) Prerequisite: courses 120A, 120B, and consent of instructor. May be repeated for credit. The Staff

African Languages

Lower Division Courses

1A-1B-1C. Elementary Swahili. (Formerly numbered 101A-101B-101C.) Lecture, five hours. The major language of East Africa, particularly Tanzania. Mr. Hinnebusch

2A-2B-2C. Intermediate Swahili. (Formerly numbered 102A-102B-102C.) Lecture, four hours. Prerequisite: courses 1A-1B-1C or consent of the instructor. Mr. Hinnebusch

*[4]**4A-4B-4C. Elementary Luganda.** (Formerly numbered 104A-104B-104C.) Lecture, five hours. A major language of Uganda. Mr. Givón

*[4]**5A-5B-5C. Elementary Sotho.** (Formerly numbered 105A-105B-105C.) Lecture, five hours. Southern Sotho, spoken primarily in Basutoland and Orange Free State, mutually intelligible with adjacent Northern Sotho and Tswana. Mr. Kunene

*[4]**6A-6B-6C. Intermediate Sotho.** (Formerly numbered 106A-106B-106C.) Lecture, four hours. Prerequisite: courses 5A-5B-5C or consent of instructor. Mr. Kunene

7A-7B-7C. Elementary Zulu. (Formerly numbered 107A-107B-107C.) Lecture, five hours. The most widely spoken of the Nguni languages of South Africa, mutually intelligible with other members of this group. Mr. Kunene

8A-8B-8C. Intermediate Zulu. (Formerly numbered 108A-108B-108C.) Lecture, four hours. Prerequisite: course 7A-7B-7C or consent of instructor. Mr. Kunene

*[4]**9A-9B-9C. Elementary Xhosa.** (Formerly numbered 109A-109B-109C.) Lecture, five hours. A Major Nguni language of South Africa, mutually intelligible with other members of this group. Mr. Kunene

*[4]**10A-10B-10C. Intermediate Xhosa.** (Formerly numbered 110A-110B-110C.) Lecture, four hours. Prerequisite: courses 9A-9B-9C or consent of the instructor. Mr. Kunene

11A-11B-11C. Elementary Yoruba. (Formerly 111A-111B-111C.) Lecture, five hours. Prerequisite: consent of the instructor. The major language of western Nigeria. The Staff

12A-12B-12C. Intermediate Yoruba. (Formerly numbered 112A-112B-112C.) Lecture, four hours. Prerequisite: courses 11A-11B-11C or consent of the instructor. The Staff

*[1]**13A-13B-13C. Elementary Igbo.** (Formerly 113A-113B-113C.) Lecture, five hours. The major language of eastern Nigeria. Mr. Welmers

*[4]**14A-14B-14C. Intermediate Igbo.** (Formerly numbered 114A-114B-114C.) Lecture, four hours. Prerequisite: courses 13A-13B-13C or consent of the instructor. Mr. Welmers

*[4]**15A-15B-15C. Elementary Akan.** (Formerly numbered 115A-115B-115C.) Lecture, five hours. The major language of Ghana. The Staff

*[4]**21A-21B-21C. Elementary Fula.** (Formerly numbered 121A-121B-121C.) Lecture, five hours. The language of the Fulani, spoken in widely scattered areas of West Africa, including major concentrations in Guinea and the Nigeria-Cameroon area. The Staff

31A-31B-31C. Elementary Bambara. (Formerly numbered 131A-131B-131C.) Lecture, five hours. Prerequisite: consent of the instructor. The major language of Mali, also widely spoken in adjacent parts of West Africa; includes Maninka (Malinke), Dyula, and other mutually intelligible dialects. The Staff

*[4]**32A-32B-32C. Intermediate Bambara.** (Formerly numbered 132A-132B-132C.) Prerequisite: courses 31A-31B-31C or consent of instructor. The Staff

41A-41B-41C. Elementary Hausa. (Formerly numbered 141A-141B-141C.) Lecture, five hours. The major language of northern Nigeria and adjacent areas. Mr. Schuh

42A-42B-42C. Intermediate Hausa. (Formerly numbered 142A-142B-142C.) Lecture, four hours. Prerequisite: courses 41A-41B-41C or consent of the instructor. Mr. Schuh

103A-103B-103C. Advanced Swahili. Prerequisite: courses 2A-2B-2C or consent of the instructor. Readings in Swahili literature and the contemporary press. Discussions mainly in Swahili. Mr. Hinnebusch

*[4]**133A-133B-133C. Advanced Bambara.** Prerequisite: courses 32A-32B-32C or consent of instructor. Readings in Bambara literature and the contemporary press. Discussions mainly in Bambara. The Staff

143A-143B-143C. Advanced Hausa. Prerequisite: courses 42A-42B-42C or consent of the instructor. Readings in Hausa literature and the contemporary press. Discussions mainly in Hausa. Mr. Schuh

150A-150B-150C. African Literature in English Translation. Courses 150A and 150B may be taken independently for credit. Narrative and didactic oral prose and poetry of sub-Saharan Africa, and written prose and poetry of South Africa. Mr. Kunene

190. Survey of African Languages. An introduction to the languages of Africa, their distribution and classification, and their phonological and grammatical structures; illustrations from several representative languages, with appropriate language laboratory demonstrations and drills. Mr. Welmers

192. Comparative Studies in African Languages. Prerequisite: two quarter courses in an African language, or course 190; Linguistics 110 is recommended as a prior or concurrent course. Comparison of structural and lexical features of a group of closely related languages, such as southern Bantu, southwestern Mande, Akan, or Senufo. The Staff

199. Special Studies in African Languages. (¼ to 1½ courses) Prerequisite: consent of the instructor. Instruction or supervised research based on the needs of the individual student, in any language or group of languages for which appropriate facilities are available. The Staff

Indigenous Languages of the Americas

Lower Division Courses

18A-18B-18C. Elementary Quechua. (Previously numbered 118A-118B-118C.) Lecture, five hours. The language of the Incas and its present day dialects, as spoken in Andean South America. The Staff

South Asian Languages

Lower Division Courses

*[4]**51A-51B-51C. Elementary Thai.** (Formerly numbered 151A-151B-151C.) Lecture, five hours. The major language of Thailand. Mr. Campbell

*[4]**52A-52B-52C. Intermediate Thai.** (Formerly numbered 152A-152B-152C.) Prerequisite: courses 51A-51B-51C or consent of instructor. Mr. Campbell

*[4]**61A-61B-61C. Elementary Tagalog.** (Formerly numbered 161A-161B-161C.) Lecture, five hours. The national language of the Philippines. The Staff

*[1]**71A-71B-71C. Hindi.** (Formerly numbered 171A-171B-171C.) Lecture, five hours. Mr. Bright

Related Courses in Other Departments

(Other than Language Courses)

Anthropology 177A. Field Methods in Linguistic Anthropology: Practical Phonetics.

177B. Field Methods in Linguistic Anthropology: Descriptive Semantics.

276. Ethnolinguistics.

Arabic (Department of Near Eastern Languages) 280. Structure of Classical Arabic.

Armenian (Department of Near Eastern Languages) 210. History of the Armenian Language.

Czechoslovak (Department of Slavic Languages) 222. The Structure of Slovak.

Dutch (Department of Germanic Languages) 234. The Structure of Modern Standard Dutch.

English 121. The History of the English Language.

122. History of the English Language.

215. The Structure of Present-Day English.

218. Celtic Linguistics.

240. Studies in the History of the English Language.

241. Studies in the Structure of the English Language.

250K. Contrastive Analysis of English and Other Languages. Seminar.

251K. Bilingual Comparative Studies. Seminar.

260K. Psycholinguistics and Language Teaching. Seminar.

270K. Language Policy in Developing Countries. Seminar.

Folklore 217. Folk Speech.

French 204A. Phonology and Morphology from Vulgar Latin to French Classicism.

204B. Syntax and Semantics from Vulgar Latin to French Classicism.

206A. French Grammatical Theory.

206B. Problems in French Syntax.

Germanic Languages 117. Language and Linguistics.

217. History of the German Language.

230. Survey of Germanic Philology.

251. Seminar in Syntax and Phonology of German.

252. Seminar in Historical and Comparative German Linguistics.

Hebrew (Department of Near Eastern Languages) 190A-190B. Survey of Hebrew Grammar.

210A-210B-210C. History of the Hebrew Language.

Indo-European Studies 210. Indo-European Linguistics. Advanced Course.

280A-280B. Seminar in Indo-European Linguistics.

Iranian (Department of Near Eastern Languages) 210A-210B. The History of the Persian Language.

211A-211B. Modern Iranian Dialects.

Italian 259A. History of the Italian Language.

259B. The Structure of Modern Italian.

Latin (Department of Classics) 240. History of the Latin Language.

Oriental Languages 175. The Structure of the Japanese Language.

223 History of the Japanese Language.

Philosophy 127A-127B. Philosophy of Language.

172. Philosophy of Language.

287. Seminar: Philosophy of Language.

Portuguese (Department of Spanish and Portuguese) 100. Phonology and Pronunciation.

103. Syntax.

M118. History of the Portuguese and Spanish Languages.

M203A-203B. The Development of the Portuguese and Spanish Languages.

M251. Studies in Galegan-Portuguese and Old Spanish.

Psychiatry 322. Language Disorders of Childhood.

Psychology 122. Language and Communication.

123. Psycholinguistics.

NOTE: For key to symbols, see pages 65 and 66

231. Seminar in Language and Communication.

260A. Psycholinguistics I. Seminar.

260B. Psycholinguistics II. Seminar.

Russian (Department of Slavic Languages) 121. Russian Phonology.

122. Russian Morphology.

123. Historical Commentary to Modern Russian.

204. Introduction to the History of the Russian Literary Language.

241. Russian Phonology.

242. Russian Morphology.

243A-243B. Historical Phonology and Morphology of Russian.

263. Russian Dialectology.

264. The Evolution of Literary Russian.

265. Russian Syntax.

266. Russian Lexicology.

Scandinavian Languages (Department of Germanic Languages) 210. History and Description of the Scandinavian Languages.

Semitics (Department of Near Eastern Languages) 209A-209B-209C. Comparative Study of the Ethiopian Languages.

280A-280B-280C. Seminar in Comparative Semitics.

290A-290B-290C. Comparative Morphology of the Semitic Languages.

Slavic Languages 202. Introduction to Comparative Slavic Linguistics.

242. Comparative Slavic Linguistics.

251. Introduction to Baltic Linguistics.

262A-262B. Western Slavic Linguistics.

263A-263B. Southern Slavic Linguistics.

281. Seminar in Slavic Linguistics.

282. Seminar in Structural Analysis.

Sociology 144. Conversational Structures.

266. Selected Problems in the Analysis of Conversation.

267. Selected Problems in Communication.

Spanish (Department of Spanish and Portuguese) 100. Phonology and Pronunciation.

103. Syntax.

115. Applied Linguistics.

M118. History of the Portuguese and Spanish Languages.

M203A-203B. The Development of the Portuguese and Spanish Languages.

204A-204B. Transformational Grammar.

206. Linguistics.

209. Dialectology.

M251. Studies in Galegan-Portuguese and Old Spanish.

256A-256B. Studies in Linguistics and Dialectology.

Turkic Languages (Department of Near Eastern Languages) 203A-203B-203C. A Historical and Comparative Survey of the Turkic Languages.

MANAGEMENT

(Department Office, 3250 Graduate School of Management)

The Graduate School of Management (GSM) offers a variety of programs leading to graduate degrees at the master's and doctoral levels. The School also offers an Executive Program, research conferences, and seminars for experienced managers; information about these programs may be obtained from the Office of Executive Education, GSM 2381, (213) 825-2001.

Although the School does not offer an undergraduate major in management, undergraduate courses in management are open to all University students who have completed the necessary prerequisites. Enrollments in these courses are very limited, however. Non-GSM students are therefore forewarned not to count on gaining admission to them in order to meet the requirements of other departments or for any other necessity.

For information on these courses, and for information about graduate curricula, please refer to the Graduate Catalog, or contact the department.

MATHEMATICS

(Department Office, 6356 Mathematical Sciences Building)

Richard F. Arens, Ph.D., *Professor of Mathematics.*
Donald G. Babbitt, Ph.D., *Professor of Mathematics.*
[8]Kirby A. Baker, Ph.D., *Professor of Mathematics.*
[12]A.V. Balakrishnan, Ph.D., *Professor of Mathematics and Engineering and Applied Science.*
Robert J. Blattner, Ph.D., *Professor of Mathematics.*
Robert F. Brown, Ph.D., *Professor of Mathematics.*
Friedrich Busse, Ph.D., *Professor of Mathematics and Earth and Space Science.*
David G. Cantor, Ph.D., *Professor of Mathematics and Engineering and Applied Science.*
C.C. Chang, Ph.D., *Professor of Mathematics.*
[15]Alonzo Church, Ph.D., *Professor of Mathematics and Philosophy in Residence.*
[12]Earl A. Coddington, Ph.D., *Professor of Mathematics.*
Julian D. Cole, Ph.D., *Professor of Mathematics and Engineering and Applied Science.*
Philip C. Curtis, Jr., Ph.D., *Professor of Mathematics.*
[12]Henry A. Dye, Ph.D., *Professor of Mathematics.*
Robert Edwards, Ph.D., *Professor of Mathematics.*
Hector Fattorini, Ph.D., *Professor of Mathematics and Engineering and Applied Science.*
Thomas S. Ferguson, Ph.D., *Professor of Mathematics.*
[6]Theodore Gamelin, Ph.D., *Professor of Mathematics.*
[6]John Garnett, Ph.D., *Professor of Mathematics.*
David Gieseker, Ph.D., *Professor of Mathematics.*
[6]Basil Gordon, Ph.D., *Professor of Mathematics.*
John W. Green, Ph.D., *Professor of Mathematics.*
Robert E. Greene, Ph.D., *Professor of Mathematics.*
Nathaniel Grossman, Ph.D., *Professor of Mathematics.*
Alfred Hales, Ph.D., *Professor of Mathematics.*
[14]Alfred Horn, Ph.D., *Professor of Mathematics.*
S.T. Hu, Ph.D., D.Sc., *Professor of Mathematics.*
[6]Robert I. Jennrich, Ph.D., *Professor of Mathematics and Biomathematics.*
[14]Paul B. Johnson, Ph.D., *Professor of Mathematics.*
Paul J. Koosis, Ph.D., *Professor of Mathematics.*
Thomas M. Liggett, Ph.D., *Professor of Mathematics.*
D. Anthony Martin, *Professor of Mathematics.*
Ronald Miech, Ph.D., *Professor of Mathematics.*
[8]Yiannis N. Moschovakis, Ph.D., *Professor of Mathematics.*
[14]Barrett O'Neill, Ph.D., *Professor of Mathematics.*
Stanley J. Osher, Ph.D., *Professor of Mathematics.*
[14]Lowell J. Paige, Ph.D., *Professor of Mathematics.*
Sidney Port, Ph.D., *Professor of Mathematics.*
James V. Ralston, Jr., Ph.D., *Professor of Mathematics.*
[12]Raymond M. Redheffer, Ph.D., *Professor of Mathematics.*
Bruce L. Rothschild, Ph.D., *Professor of Mathematics.*
Leo Sario, Ph.D., *Professor of Mathematics.*
Murray Schacher, Ph.D., *Professor of Mathematics.*
[6]Robert Steinberg, Ph.D., *Professor of Mathematics.*
[14]Charles J. Stone, Ph.D., *Professor of Mathematics and Biomathematics.*
[8]Ernst G. Straus, Ph.D., *Professor of Mathematics.*
Masamichi Takesaki, Ph.D., *Professor of Mathematics.*
[7]V.S. Varadarajan, Ph.D., *Professor of Mathematics.*
N. Donald Ylvisaker, Ph.D., *Professor of Mathematics.*
E.F. Beckenbach, Ph.D., *Emeritus Professor of Mathematics.*
M.R. Hestenes, Ph.D., *Emeritus Professor of Mathematics.*
Paul G. Hoel, Ph.D., *Emeritus Professor of Mathematics.*
William T. Puckett, Ph.D., *Emeritus Professor of Mathematics.*
Robert H. Sorgenfrey, Ph.D., *Emeritus Professor of Mathematics.*
Angus E. Taylor, Ph.D., *Emeritus Professor of Mathematics.*
Frederick A. Valentine, Ph.D., *Emeritus Professor of Mathematics.*
Cheng, S.Y., Ph.D., *Associate Professor of Mathematics.*
[10]Rodolfo De Sapio, Ph.D., *Associate Professor of Mathematics.*
[10]Richard S. Elman, Ph.D., *Associate Professor of Mathematics.*
Björn Engquist, Ph.D., *Associate Professor of Mathematics.*
David Gillman, Ph.D., *Associate Professor of Mathematics.*
Mark Green, Ph.D., *Associate Professor of Mathematics.*
Allen E. Hatcher, Ph.D., *Associate Professor of Mathematics.*
[14]Charles G. Lange, Ph.D., *Associate Professor of Mathematics.*
[12]James White, Ph.D., *Associate Professor of Mathematics.*
Pamela Cook-Ioannidis, Ph.D., *Assistant Professor of Mathematics.*
[14]Richard T. Durrett, Ph.D., *Assistant Professor of Mathematics.*
Steven Krantz, Ph.D., *Assistant Professor of Mathematics.*
John R. Steel, Ph.D., *Assistant Professor of Mathematics.*
David Yingst, Ph.D., *Assistant Professor of Mathematics.*

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David Cohen, M.A., *Lecturer in Mathematics.*
Herbert Enderton, Ph.D., *Lecturer in Mathematics.*
John McGhee, M.A., *Lecturer in Mathematics.*

Undergraduate Programs

Students who wish advice or current information on any of the undergraduate mathematics programs should inquire at the Undergraduate Mathematics Office, MS 6356.

Courses taken to fulfill any of the requirements for any of the Mathematics Department's majors must be taken for a letter grade and not on a Pass/Not Pass basis.

Preparation for the Major

Courses 31A-31B, 32A-32B, 33A-33B (This is the revised calculus sequence. Students who have completed 31C must complete the old sequence 31ABC, 32ABC.), or the corresponding courses in the honors sequence. These courses must be completed with an average grade of C or higher. Prospective majors who qualify are strongly urged to take the honors sequence Mathematics 31AH-31BH, 32AH-32BH, 33AH-33BH. Engineering 10C (Engineering 10F may be substituted for Engineering 10C) and three courses in physical sciences chosen from Chemistry 11 or 11H sequences (formerly Chemistry 1 or 3), Physics 6, 8 or 8H sequences, Astronomy 101, Atmospheric Sciences 10, 40A, 40B, or approved upper division courses in Chemistry, Atmospheric Sciences, Geophysics and Space Sciences, and Physics.

Transfer Students

Transfer students, and UCLA students wishing to change their major to mathematics, with 60 or more quarter units of credit must have completed one year of calculus and have a C average or better in all college level mathematics courses completed. Transfer students should consult with a departmental adviser at their earliest opportunity. Particular areas where evaluation and direction may be necessary are linear algebra and differential equations.

The Major

Courses 110A, 115, 120A, 131A, 131B, and at least five additional courses numbered between 105 and 199. Students who wish to pursue a graduate degree in mathematics are urged to take several more than this minimum of ten courses. Strongly recommended as preparation for graduate study; course 132 and (for pure mathematics) courses 110BC; a reading knowledge of French, German or Russian.

Honors Calculus Sequence

The first and second year honors sequence, Mathematics 31AH-31BH-32AH-32BH-33AH-33BH, is intended for students (not necessarily mathematics majors) who have a strong interest in mathematics and desire a broader and more comprehensive and demanding introduction to university-level topics. On occasion, the courses may range beyond the stated topics of calculus, linear algebra, and differential equations. Admission to the sequence is by permission of the instructor. The preliminary examination in mathematics is required. Students who have done unusually well in the standard sequence are welcome to apply for transfer to the honors sequence. (The honors sequence is not connected with the Undergraduate Honors Program described below.)

Undergraduate Honors Program

A student majoring in mathematics and wishing to graduate with Honors in Mathematics should apply for admission to the Honors Program. This may be done any time after the fourth undergraduate quarter. Minimum entrance requirements for fifth quarter students are the completion of courses 31A-31B, 32A-32B with three A's and one B. Applications from students past the fifth quarter and from

transfer students will be judged on prospects for successful completion of the program. Honors will be granted to students in the program who in addition to the usual course requirements: (a) complete courses 110B-110C or approved graduate substitutes; (b) complete course 190, Honors Mathematics Seminar; (c) earn a grade-point average of at least 3.6 in approved upper division and graduate mathematics courses. Students who demonstrate exceptional achievement will be awarded Highest Honors.

Departmental Scholar Program in Mathematics

This program allows exceptionally promising undergraduates to enroll in graduate courses and begin work towards the Master's degree in mathematics. See Departmental Scholar Program.

The Major in the Teaching of Mathematics

Courses 101A-101B-101C, 102A-102B, 152A, 370 and at least three other courses in the 100 series beyond 105. Highly recommended are courses 106, 111A-111B-111C, 115, 120A-120B, 131A-131B, 132, 140A, 142, 144, 152B. A knowledge of Spanish is recommended for students who intend to teach in the Southwest.

Teaching Credentials

Students interested in teaching mathematics in the schools should inquire at the Undergraduate Mathematics Office, MS 6356, about teaching credentials.

The Major in Mathematics-Applied Science

This is a program designed for students with a substantial interest both in mathematics and its applications to related fields.

Preparation for the Major. Mathematics 31A-31B, 32A-32B, 33A-33B, (the revised calculus sequence; students who have completed 31C must complete the old calculus sequence 31ABC, 32ABC), with an average grade of "C" or better.

The Major. Seven courses in Mathematics in the 100 series chosen from those numbered 110 and above, with an average grade of "C" or better. Seven upper division courses chosen from not more than two related departments approved by the Mathematics-Applied Science Curriculum Committee of the Mathematics Department.

Students contemplating this major normally apply during their sophomore year, at which time a proposed program of study is drawn up in consultation with a committee member. At least five of the courses from the related discipline must be taken after the program has been approved. Students who will have 135 or more units by the end of the quarter in which entrance to the program is sought will not be admitted.

Actuarial Plan (Under the Mathematics-Applied Science major)

The following package of courses is designed especially for students interested in actuarial science. Anyone may use it as a plan under the Mathematics-Applied Science major. To change to this plan, just apply at the Mathematics Undergraduate Office, MS 6356.

Preparation for the Major. Math 31AB, Math 32AB, Math 33AB (the revised calculus sequence; students who have completed 31C must complete the old calculus sequence 31ABC, 32ABC), Engineering 10C, and Econ 1-Econ 2 or Econ 100 are required. Econ 100 may not be counted as one of the upper division courses of the major. The lower division seminars in economics, Econ 3 and Econ 4, are not required but are highly recommended.

The major consists of seven courses in mathematics, five in economics, and two in management.

Five of the seven mathematics courses are specifically required. These are: Math 115; Math 152AB, Math 140A, Math 144. The student is to choose two other courses from the following list: Math 113, Math 142, Math M151, Math M153.

The five required courses in economics are: Econ 101A-B, Econ 102, Econ 147, Econ 160. One of the management courses, Mgmt 111 is required. The remaining course is to be chosen from: Mgmt 133, Mgmt 135, Mgmt 190.

Variations of this program are possible, with the consent of the Mathematics-Applied Science Curriculum Committee.

The Major in Mathematics-Computer Science

The major, the pre-major, the minimum standards for progress, and the Honors Program in the major are described under the College of Letters and Science.

Departmental Scholar Program in Mathematics-Computer Science

This program allows exceptionally promising Mathematics-Computer Science undergraduates to enroll in graduate courses and begin work towards the Master's degree in Computer Science or the Master's degree in Mathematics. See Departmental Scholar Program.

The Major in Mathematics-System Science

This is described under the College of Letters and Science.

Changes in the 31-32 Calculus Sequence

The calculus sequence, courses 31A-31B-31C, 32A-32B-32C, has been revised. The new sequence, courses 31A-31B, 32A-32B, 33A-33B, is now being phased in.

If you have had course 31C at UCLA or courses containing the same topics elsewhere, then you are in the old sequence and should continue in it by taking course 32A, 32B, or 32C as appropriate. *Otherwise*, you are in the new sequence and should take course 31A, 31B, 32A, 32B, 33A, 33B as appropriate, but NOT 32C.

For any special problems, contact the Mathematics Department Undergraduate Office, MS 6356, 825-4701.

Preliminary Examination in Mathematics

All students planning to enroll in Mathematics 3A or Mathematics 31A are required to take and pass the mathematics section of the Chemistry/Mathematics Preliminary Examination during the enrollment period for the quarter in which they intend to enroll in these courses. This examination is designed to test the student's mastery of algebra and precalculus mathematics. During 1980-81 this preliminary examination is scheduled on September 22, 1980 for the Fall Quarter, January 7, 1981 for the Winter Quarter, and April 1, 1981 for the Spring Quarter. These dates may be changed. The time and location of the examination will be posted outside the Undergraduate Mathematics Office, MS 6356.

Advanced Placement in Calculus

Students with transfer credit in calculus or Advanced Placement credit in calculus are exempt from the preliminary examination in mathematics. These students must consult the mathematics department counselor in MS 6356 for appropriate advanced placement in the calculus sequences. (A departmental placement examination may be recommended.)

Students who have had a calculus course in high school but who do not have Advanced Placement credit have a choice: They may take calculus beginning again with a first calculus course (for 3A and 31A the Preliminary Examination is still required), or they may seek advanced placement, in which case they must consult the mathematics department counselor. (A departmental placement examination may be recommended.)

Students wishing placement in the 31AH honors calculus sequence must likewise take the preliminary examination in mathematics. Students wishing placement in the 32BH honors calculus sequence may need to pass a placement examination in mathematics. Enrollment in 31AH and 32BH is by consent of the instructor. Before consent is obtained, students are advised to enroll in the corresponding non-honors course.

Advanced Placement Calculus AB and BC Tests: Students who pass the AB Examination with a score of 3, 4, or 5 receive 5 units of credit and Mathematics 31A equivalency. Students who score 3, 4, or 5 on the BC Examination receive 10 units of credit and Mathematics 31AB equivalency. Students who take both examinations will receive at most 10 units of credit.

Conflicts or Duplication of Calculus Sequences

Since each of the sequences 3A-3B-3C, 4A-4B, 31A-31B-32A-32B-33A-33B (and the previous 31A-31B-31C-32A-32B-32C) has been designed in accordance with the requirements of majors in a particular group of departments, it will be difficult for students to transfer from one sequence to another. Good students who wish to pursue advanced mathematics should be able to enter 32A after completing 3B. Credit will be given for at most one course in each of the following groups: (1) 31A, 31AH, 3A, 4A, 2B; (2) 31B, 31BH, 3B, 4B, 2C; (3) 32A, 32AH; (4) 32B, 32BH; (5) 33A, 33AH, 31C, 31CH; (6) 33A, 33AH, 32C, 32CH; (7) 33B, 33BH, 31C, 31CH

Other changes should be made only with the concurrence of a departmental adviser who will determine the total allowable credit. Similar caution applies to transfer students entering with incomplete calculus sequences. Such students should be prepared to supply complete information as to texts used and chapters covered in their previous work. If necessary, a placement examination may be required.

Courses taken out of order

A student may not take a mathematics course for credit if he has credit for a more advanced course which has the first course as a prerequisite.

Upper Division Mathematics Course Offerings

Mathematics 110A, 115, 120A, 131A, 131B and 152A are offered each quarter. However, the full 110A-110B-110C and other three-course sequences are usually offered only on a Fall-Winter-Spring schedule.

Lower Division Courses

1A. Intermediate Algebra. (½ course) Prerequisites: Mathematics 1A displaces 4 units on the student's study list and yields 2 units credit towards the degree. Restrictions: Mathematics 1A may not be used to satisfy College breadth requirements. Not open for credit to students who have credit for other mathematics courses. Arithmetical operations on the real numbers, algebraic notation, polynomials, rational exponents, linear and quadratic equations and inequalities, coordinate geometry. Intended for students requiring a review of elementary and intermediate algebra.

1B. Precalculus. Prerequisite: course 1A with a grade of C− or better or two and one half years of high school mathematics and satisfactory performance on a placement examination given the first class meeting. Not open for credit to students who have credit for other mathematics courses except 38A-38B and 100. The function concept. Linear and polynomial functions and their graphs, zeroes of polynomials. Inverse, exponential and logarithmic functions. Trigonometric functions.

2. Finite Mathematics for Social Science Students. (Formerly Mathematics 2A) Prerequisite: three years of high school mathematics or course 1B. Finite mathematics consisting of elementary logic, sets, combinatorics, probability, vectors and matrices.

3A. Calculus for Life Science Students. Lecture, three hours; discussion, two hours. Prerequisites: three years of high school mathematics (including trigonometry) and passing of the mathematics section of the Chemistry/Mathematics Preliminary Examination, or completion of Mathematics 1B with a grade of C− or higher. Course 3A is not open for credit to students with credit in another calculus sequence. Techniques and applications of the differential calculus. (A section of Mathematics 3A designed for Economics majors is offered every quarter, except during the summer sessions.)

NOTE: For key to symbols, see pages 65 and 66

3B. Calculus for Life Science Students. Lecture, three hours; discussion, two hours. Prerequisite: course 3A with grade C− or higher. Techniques and applications of the integral calculus.

3C. Calculus for Life Science Students. Lecture, three hours; discussion, two hours. Prerequisite: course 3B with grade C− or higher. Functions of several variables, vectors, partial differentiation, and multiple integration.

4A-4B. Calculus for Social Science Students. (Formerly Mathematics 2B-2C) Prerequisite: three years of high school mathematics (including trigonometry) or course 1B. **4A:** functions, graphs, differentiation and integration with applications. **4B:** further applications of the calculus, differential equations, functions of several variables.

15. Lower Division Seminars. Prerequisite: consent of the instructor. Each quarter the Department will offer a limited number of seminars in various branches of mathematics. The method of teaching will involve substantial student participation and enrollment will be limited to 15 students. Course may be repeated for credit.

31A. Calculus and Analytic Geometry. Prerequisite: At least three years of high school mathematics including some coordinate geometry and trigonometry, and passing of the mathematics section of the Chemistry/Mathematics Preliminary Examination, or completion of Mathematics 1B with a grade of C− or higher. Differential calculus and applications; introduction to integration.

31B. Calculus and Analytic Geometry. Prerequisite: course 31A with grade C− or higher or course 31AH. Transcendental functions; methods and applications of integration.

31AH-31BH. Calculus and Analytic Geometry, Honors Sequence. Prerequisites: Satisfactory performance on the preliminary examination in mathematics, or an additional Honors placement examination, and consent of the instructor. An honors sequence parallel to 31A-31B.

32A-32B. Calculus of Several Variables. Prerequisites: course 31B or 31BH. **32A:** Introduction to differential calculus of several variables. **32B:** Introduction to integral calculus of several variables.

32AH-32BH. Calculus of Several Variables, Honors Sequence. Prerequisites: course 31BH, or 31B with grade A, and consent of instructor. An honors sequence parallel to 32A-32B.

32C. Introduction to Differential Equations. Prerequisites: course 31C or consent of instructor. An introduction to the theory of differential equations: separation of variables, linear equations variation of parameters, partial differential equations, Fourier series. (This course will be offered for the last time in the 1980-81 academic year, for students who have taken the former course 31C.)

33A. Matrices and Differential Equations. Prerequisite: course 32A or 32AH. Introduction to matrix theory; introduction to differential equations.

33B. Infinite Series. Prerequisite: course 33A or 33AH or consent of the instructor. Infinite sequences and series; complex numbers.

33AH-33BH. Matrices, Differential Equations and Infinite Series, Honors Sequence. Prerequisite: course 32BH, or 32B with grade A, and consent of instructor. An honors sequence parallel to 33AB.

38A-38B. Fundamentals of Arithmetic. Lecture three hours, laboratory two hours. Prerequisite: sophomore standing; two years of high school mathematics. Designed for prospective elementary teachers (See also Mathematics 104). The real number system, its origins, development, structure, and use. Emphasis is on understanding of arithmetic procedures. The laboratory includes experience with aids and models. **38A:** May not be used to fulfill Letters and Science breadth requirement. Counting numbers and other subsystems of the rational numbers; sets; operations; relations; algorithms; measurement and approximation; applications. **38B:** prerequisite: course 38A. May not be used to fulfill Letters and Science breadth requirement. The real numbers, functions, elementary ideas of number theory, probability, and statistics. Other topics appropriate for the elementary classroom.

50A-50B. Elementary Statistics. Prerequisites: Mathematics 50A is not open to students with credit for Economics 40. Prerequisite to course 50A: three years of high school mathematics or course 1B or consent of the instructor. Prerequisite to course 50B: course 50A. **50A:** Descriptive statistics, elementary probability, random variables, binomial and normal distributions. Large and small sample inference concerning means. **50B:** Linear regression and correlation, chi-square tests, design of experiments, analysis of variance, nonparametric statistics, computerized statistical analysis via prepackaged routines.

99. Individual Projects in Programming. (1/8 course) Prerequisites: course 32A (or the discontinued course 31C), Engineering 10C or 10F and consent of the instructor. Limited to majors in Mathematics, Teaching of Mathematics, Mathematics/Applied Science, Mathematics/Computer Science, Mathematics/System Science. Course may only be taken on a pass-fail basis and may be taken up to eight times. This is an unstructured course in computer programming. Students submit proposals for their own programming projects and, after approval, proceed to carry them out, either independently or in small groups. To pass this course students must submit a final report indicating what they have actually done, and evidence that they have successfully run computer programs.

Upper Division Courses

GENERAL AND TEACHER TRAINING

100. The Nature of Mathematics. Prerequisite: junior standing. Not open to students majoring in mathematics, engineering, or physical science. A course designed to acquaint students in the arts, humanities, and social sciences with the nature of modern mathematics and the mathematical method.

101A-101B-101C. Topics in Algebra. Prerequisite: course 32A (or discontinued course 31C). 101A is not open to students having credit for course 110A. A sequence intended primarily for prospective secondary teachers. Group theory, numbers and number systems, relations and equivalence, topics from elementary number theory, the rational numbers, integral domains, rings and fields, the real numbers, cardinals, complex numbers, polynomials, vector spaces, nonconstructibility, nonsolvability. (This course sequence may not be offered every year.)

102A-102B. Topics in Geometry. Prerequisite: course 32A (or the discontinued course 31C.) A sequence intended primarily for prospective secondary teachers. Axiomatic methods, advanced topics in Euclidean geometry, hyperbolic and other geometries, constructions, symmetries, isometry and related topics, projective geometry, map coloring, Jordan curve theorem. (This course sequence may not be offered every year.)

104. Fundamental Concepts of Geometry. Lecture three hours, laboratory two hours. Prerequisite: two years of high school mathematics including geometry. Designed for prospective elementary teachers (See also Mathematics 38A-38B). Plane and solid Euclidean geometry; axioms, parallels, congruence, similarity, area and volume, geometric constructions; non-Euclidean geometry.

106. History of Mathematics. Prerequisite: course 32A (or the discontinued course 31C). Topics in the history of mathematics with emphasis on the development of modern mathematics.

ALGEBRA, NUMBER THEORY AND LOGIC

110A-110B-110C. Algebra. Prerequisite: course 115 or consent of the instructor. Course 110A is not open for credit to students with credit for Mathematics 101A or 101B. **110A:** the ring of integers, integral domains, fields, polynomial domains, unique factorization. **110B:** groups, structure of finite groups. **110C:** further topics in rings and modules; field extensions, Galois Theory, applications to geometric constructions and solvability by radicals.

110AH-110BH-110CH. Algebra, Honors Sequence. Prerequisites: consent of instructor. An honors sequence parallel to 110A-110B-110C.

111A-111B-111C. Theory of Numbers. Prerequisite: course 115 or consent of the instructor. Divisibility, congruences, Diophantine analysis, selected topics in the theory of primes, algebraic number theory, Diophantine equations.

112A-112B-112C. Set Theory and Logic. Prerequisite: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C). Course 112A deals with informal axiomatic set theory presented as a foundation for modern mathematics. 112B and 112C cover predicate logic, formalized theories. Gödel's completeness and incompleteness theorems.

113. Combinatorics. Prerequisite: courses 32A-32B, 33A-33B (or the former 32A-32B-32C). Permutations and combinations, counting principles recurrence relations and generating functions, combinatorial designs, graphs and trees, with applications including games of complete information. Combinatorial existence theorems, Ramsey's theorem.

114. Theory of Computability. Prerequisite: any course in Mathematics numbered 110 to 198. Machines and recursive functions. Church's thesis. Gödel numbers, enumeration theorem, universal machines. Unsolvable problems. Relative recursiveness. Further topics selected from: word problems, arithmetical relations, subrecursive hierarchies, primitive recursive functions, computational complexity.

115. Linear Algebra. Prerequisite: course 33A (or the discontinued course 31C). Abstract vector spaces; linear transformations and matrices; determinants; similarity; eigenvalues and eigenvectors; inner product spaces; quadratic forms.

117. Algebra for Applications. Prerequisites: course 115. At most one of the courses 101A, 110A, and 117 may be tken for credit. Integers, congruences; fields, applications of finite fields; polynomials; permutations, introduction to groups.

118. Combinatorial Algorithms. Prerequisites: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C), Computer Science 141 (formerly Engineering 123A). Applied aspects of combinatorial mathematics including counting and enumeration; searching and sorting techniques; recurrence relations; graph algorithms; computational complexity.

GEOMETRY AND TOPOLOGY

120A-120B. Differential Geometry. Prerequisite: course 32B and either course 33A (or the discontinued course 31C). Curves in 3-space, Frenet formulas, surfaces in 3-space, normal curvature. Gaussian curvature. Congruence of curves and of surfaces. Intrinsic geometry of surfaces, isometrics, geodesics, Gauss-Bonnet theorem.

121. Introduction to Topology. Prerequisite: course 131A. Metric and topological spaces, topological properties, completeness, mappings and homeomorphisms, the metrization problem.

122. Projective Geometry. Prerequisite: course 115. Projective spaces, especially lines and planes; homogeneous coordinates; the principles of duality; projectivities, the fundamental theorem, and the theorems of Desargues, Pappus, Steiner and Pascal.

ANALYSIS

131A-131B. Analysis. Prerequisite: courses 32A-32B, 33A-33B (or the discontinued course 31C and courses 32A-32B). 131B: courses 131A and 115. 131A: real numbers, point set topology in $\mathbb{R}^n$ and in metric spaces, limits, continuity, derivatives, infinite sequences and series. 131B: functions of bounded variation, Riemann-Stieltjes integral, sequences and series of functions, multivariable

differential calculus, implicit and inverse function theorems, extremum problems.

131AH-131BH. Analysis, Honors Sequence. Prerequisites: consent of instructor. An honors sequence parallel to 131A-131B. The courses 131AH-131BH-132H form a full honors sequence in analysis.

132. Introduction to Complex Analysis. Prerequisite: courses 32A-32B, 33A-33B (or the discontinued course 31C and courses 32A-32B). Complex numbers, functions, differentiability, series, extensions of elementary functions, integrals, calculus of residues, conformal maps and mapping functions with applications.

132H. Introduction to Complex Analysis, Honors Course. Prerequisites: Course 131BH and consent of instructor. An honors course parallel to 132. The courses 131AH-131BH-132H form a full honors sequence in analysis.

133. Integration on Manifolds. Prerequisite: course 131B. Integration theory for functions of several variables, multilinear algebra, differential forms, Stokes' Theorem on manifolds.

134. Measure and Integration. Prerequisite: course 131B or consent of the instructor. An introduction to Lebesgue measure and integration.

135A-135B-135C. Differential Equations. Prerequisites: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C). Course 131A is recommended. Systems of differential equations, linear systems, existence theory, stability of linear and almost linear systems, Lyapunov's Second Method, Sturm-Liouville problems, applications, linear partial differential equations, the wave equation, the heat equation and Laplace's equation.

APPLIED MATHEMATICS

140A-140B-140C. Numerical Analysis. Prerequisite: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C), 115, and Engineering 10C or 10F. These courses are not normally open for credit to students with credit for course 141A, course 141B, Engineering M124A, or Computer Science M124A. Computational methods for linear algebra; solving systems of linear equations; computing eigenvalues and eigenvectors; nonlinear equations; interpolation and approximation; numerical differentiation and integration; elements of numerical solutions for scalar ordinary differential equations. These courses emphasize both theory, with error analysis, and applications.

141A-141B. Applied Numerical Methods. Prerequisites: courses 32A-32B, 33A-33B, 115, and Engineering 10C or 10F. These courses are not open for credit to students with credit for course 140A, course 140B, Engineering M124A, or Computer Science M124A. Introduction to scientific computing. Numerical methods for solving linear and nonlinear equations. Interpolation and approximation; numerical differentiation and integration. Computational techniques for solving ordinary differential equations. Student implementation of case studies. These courses emphasize algorithms and applications.

142. Introduction to Applied Mathematics. Prerequisite: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C), or consent of the instructor. An introduction to the fundamental principles and the spirit of applied mathematics. Emphasis is placed on the manner in which mathematical models are constructed for physical problems. Illustrations are drawn from many fields of endeavor (e.g. physical science, biology, economics, traffic dynamics, etc.).

143. Analytic Mechanics. Prerequisiste: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C). Foundations of Newtonian mechanics, kinematics and dynamics of a rigid body, variational principles and Lagrange's equations; calculus of variations, variable mass; related topics in applied mathematics.

144. Theory of Games and Linear Programming. Prerequisite: course 115 or consent of the instructor. The basic theorems of two person zero-sum matrix games including the minimax theorem; applications to games of chance and strategy; principles of linear programming, the duality theorem, and simplex methods; applications to industrial and business problems.

145A-145B. Methods of Applied Mathematics. Prerequisite: courses 32A-32B, 33A-33B (or the former courses 32A-32B-32C). Calculus of variations, linear integral equations (Volterra and Fredholm) and applications to differential equations, Fourier series and integrals, elements of tensor calculus, special topics as time permits.

PROBABILITY AND STATISTICS

The 150 and 152 sequences are parallel courses and transferring between them is not permitted.

150A-150B-150C. Probability and Statistics. Prerequisite: courses 32A-32B, 33A-33B (or the discontinued course 31C and 32A-32B). 150A and the first half of 150B constitute an introduction to probability theory. The second half of 150B and 150C constitute an introduction to statistics. These courses emphasize both theory and applications.

M151. Stochastic Processes. (Same as Engineering M120C.) Prerequisite: Engineering 120A or courses 150A-150B, or 152A and consent of the instructor. An introduction to the theory and application of stochastic models, emphasizing Markov chains and pure jump processes; illustrations from queueing systems, point processes, birth and death processes, renewal theory; Poisson processes, Brownian motion.

152A-152B. Applied Mathematical Statistics. Prerequisite: course 32B or consent of the instructor. A basic introductory course in the theory and application of statistical methods. This course condenses 150A-150B-150C into two quarters mainly by devoting less time to the underlying theory.

M153. Introduction to Computational Statistics. (Same as Biomathematics M153.) Prerequisite: Mathematics 150C or Mathematics 152B or the equivalent. Statistical analysis of data by means of package programs. Regression, analysis of variance, discriminant analysis, and analysis of categorical data. Emphasis will be on understanding the connection between statistical theory, numerical results, and analysis of real data.

190. Honors Mathematics Seminar. Prerequisite: admission to Mathematics honors program and consent of the instructor. A participating seminar on advanced topics in mathematics.

191. Upper Division Seminars. (½ to 1 course) Prerequisite: courses 32A-32B, 33A-33B (or the former course 32A-32B-32C) and consent of the instructor. Each quarter the Department will offer a limited number of seminars in various branches of mathematics. The method of teaching will involve substantial student participation and enrollment will be limited to 15 students. Course may be repeated for credit.

199. Special Studies in Mathematics. (¼ to 1 course) Prerequisite: approval of the chairman and consent of the instructor. At the discretion of the chairman and subject to the availability of staff, individuals or groups may study topics suitable for undergraduate course credit but not specifically offered as separate courses. Course may be repeated for credit, but no more than one 199 course may be counted towards the ten upper division courses required for the major.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

METEOROLOGY

See Department of Atmospheric Sciences.

MICROBIOLOGY

(Department Office, 5304 Life Sciences Building)

R. John Collier, Ph.D., *Professor of Microbiology.*
Frederick A. Eiserling, Ph.D., *Professor of Microbiology.*
C. Fred Fox, Ph.D., *Professor of Molecular Biology in Microbiology (Chairman of the Department).*
June Lascelles, Ph.D., *Professor of Microbiology.*
Rafael J. Martinez, Ph.D., *Professor of Microbiology*
Donald P. Nierlich, Ph.D., *Professor of Microbiology.*
M. J. Pickett, Ph.D., *Professor of Microbiology.*
Sydney C. Rittenberg, Ph.D., *Professor of Microbiology.*
William R. Romig, Ph.D., *Professor of Bacteriology.*
Eli E. Sercarz, Ph.D., *Professor of Microbiology.*
[4]John H. Silliker, Ph.D., *Adjunct Professor of Microbiology.*
[18]Jack G. Stevens, D.V.M., Ph.D., *Professor of Virology.*
Meridian Ruth Ball, Sc.D., *Emeritus Professor of Bacteriology.*
Gregory J. Jann, Ph.D., *Emeritus Professor of Bacteriology.*
[14]David R. Krieg, Ph.D., *Emeritus Professor of Bacteriology.*
Anthony J. Salle, Ph.D., *Emeritus Professor of Bacteriology.*
Gary L. Wilcox, Ph.D., *Associate Professor of Microbiology.*
Arnold J. Berk, M.D., *Assistant Professor of Microbiology.*
Bernadine Wisnieski, Ph.D., *Assistant Professor of Microbiology.*
Owen N. Witte, M.D., *Assistant Professor of Microbiology.*

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Alfred E. Brown, Ph.D., *Lecturer in Microbiology.*
Sydney M. Harvey, Ph.D., *Lecturer in Microbiology.*
Donald A. Kaplan, Ph.D., *Assistant Research in Microbiology.*
Robert A. Mah, Ph.D., *Professor of Public Health.*
Alexander Miller, Ph.D., *Research Microbiologist.*
Robert E. Williams, M.S., *Assistant Research Microbiologist.*

Preparation for the Major

Biology 4A-4B or 5, 7 and 8; Chemistry 11A-11B-11BL-11C-11CL, 21, 23, 25; Mathematics 3A-3B-3C (or 31A-31B-31C); Physics 6A-6B-6C (or 8A-8B-8C-8D).

Pre-major

Students (new, transfer, or change of major) desiring to major in microbiology will first register as pre-microbiology students. After a minimum of two quarters in this status, pre-microbiology students may petition to change to the Microbiology major on completion of the following: Ten of the 14 courses required in preparation for the major, completion of Microbiology 101 with a grade of C or better. Students entering with 80 or more units credit, in order to specify pre-microbiology as their major, must have completed general chemistry, one year; Biology 4A-4B or 5, 7 or equivalent; and one of the following: organic chemistry with laboratory, two courses; physics, one year; calculus, one year.

The Major

The degree program in Microbiology has as its goals not only the introduction of the student to general and medical Microbiology, but also to the inseparably associated subdisciplines of biochemistry, genetics, cellular physiology, immunology and molecular biology. To qualify a student for study in such broadly related subjects, a heavy concentration of courses in the basic sciences (chemistry, mathematics and physics) is required. The student is then prepared for the advanced discussion of specialized topics required of him/her in the upper division courses. These include, in addition to the broad survey of general and medical microbiology presented in Microbiology 101, 102, and 103 or 110, genetics, and specialized courses in microbiology which include advanced laboratory training. In addition to the core program, the student may choose elective courses from a diversity of microbiology-related topics to complete the program. It is this combination of rigor in the study of fundamentals and diversity and flexibility in making up the actual microbiology major that makes this program appropriate preparation for those planning careers in a laboratory of microbiology or biochemistry, or for further studies leading to higher academic or professional degrees in such fields as microbiology, medicine, dentistry, biochemistry, pharmacology, immunology, genetics, cellular physiology, and molecular biology.

NOTE: For key to symbols, see pages 65 and 66

Core requirements: Microbiology 101, 102, 103 or 110, 119, M185; Chemistry 152; four additional upper division courses from Microbiology or other science departments, chosen with the consent of the student's faculty adviser and designed to make a cohesive program which will satisfy the student's educational goals. In addition to requirements for graduation prescribed by the College of Letters and Science, the student is required to maintain a minimal grade-point average of 2.0 (C) in the Department of Microbiology major. Additionally, a student must obtain a C or better in Microbiology 101, 102, 103 before continuing with further departmental upper division courses. A student repeating one of these courses must obtain a grade of B or better to remain in the Major.

This composition of the undergraduate Microbiology major reflects changes for students who enter the major in Fall of 1981.

Further information may be obtained by writing or visiting the Department office, Room 5304 Life Science Bldg.

Lower Division Courses

6. Introduction to Microbiology. Lecture, three hours. Not open for credit to students having credit for Microbiology 10, 101, Biology 4A-4B or 5, 6, 7, 8, or equivalent courses taken elsewhere. For the nontechnical student; an introduction to the biology of microorganisms (bacteria, viruses, protozoa, algae, fungi), their significance as model systems for understanding fundamental cellular processes, and their role in human affairs. The Staff (F,W,Sp)

10. General Microbiology. Lecture, three hours; laboratory-discussion, six hours. Prerequisite: Biology 4A-4B, or 5, 7; Chemistry 11A, 15. For Health Sciences students; not open for credit to students with credit in Microbiology 101; does not substitute for Microbiology 101 in the major. An introduction to the biology of bacteria and their role in diseases of man. The Staff (Sp)

Upper Division Courses

101. Fundamentals of Bacteriology. Lecture, three hours; laboratory, discussion, six hours. Prerequisites: Biology 4A-4B or 5, 7; Chemistry 21, 23. The historical foundations of the sciences; the structure, physiology, ecology and applications of bacteria. Ms. Lascelles (Sp), Mr. Rittenberg (F)

102. Introductory Virology. Lecture, three hours; laboratory, four hours. Prerequisite: Microbiology 101. Biological properties of bacterial and animal viruses; replication; methods of detection; interactions with host cells and multicellular hosts. Mr. Berk, Mr. Romig (W)

103. Host-Parasite Interactions. Lecture, four hours; discussion, one hour. Prerequisite: Microbiology 101 and Chemistry 152. Biochemistry and biology of host-parasite interactions; host responses to invasion; mechanisms of virulence, bactericidal mechanisms; discussion on the immunity to infection by bacteria. Mr. Martinez (Sp)

104A. Molecular Biology of Bacterial Growth. (½ course) (Same as Microbiology 204A.) Lecture, three hours. Prerequisites: Biology 8, Chemistry 25, Microbiology 101, or equivalent; or Consent of Instructor. Introduction to bacterial physiology with lectures stressing its experimental foundation. Topics include chromosome replication, gene expression, control of growth rate and cell division, role of cyclic AMP and other regulatory factors, cloning and genetic engineering. Mr. Nierlich (First five weeks in Spring)

104B. Biochemical Genetics of Eukaryotic Cells. (½ course) (Same as Microbiology 204B.) Lecture, three hours. Prerequisites: Some background in microbiology, biochemistry and genetics and Consent of Instructor. Important concepts and experimental approaches in biochemical genetics will be illustrated with selected research papers and reviews. Topics include: Systematic genetic analysis of mammalian cells, somatic cell genetics, developmental genetics, genetic analysis of cancer and human genetic disorders, genetic analysis of hormonal regulation. Mr. Lusis

104C. Microbiology and Pathophysiology of Cultured Mammalian Cells. (½ course) (Same as Microbiology 204C.) Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. The cultured mammalian cell as an experimental system for the study of normal regulatory processes and disease mechanisms. Course contents include regulation of cell growth in chemically defined medium; establishment, cloning and characterization of cell lines, cultured cells as model systems in the study of normal growth and development, disease mechanisms and cancer. Mr. Fox

104D. Protein Metabolism. (½ course) (Same as Microbiology 204D.) Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. Aspects of protein metabolism in both procaryotes and eucaryotes will be covered. Course will include a brief review of synthesis but will concentrate on other aspects of protein metabolism not normally covered in biochemistry or cell physiology courses. These include: breakdown and turnover of enzymes and implications for metabolic control; protein secretion, end processing; factors affecting protein localization in cells; uptake and degradation of proteins. Mr. Collier

104E. Biological Membranes. (½ course) (Same as Microbiology 204E.) Lecture, three hours. Prerequisites: Chemistry 152 and consent of instructor. Course content: structural organization and functional properties of lipids and proteins in model and biological membranes, membrane isolation techniques, physical chemistry of lipid monolayers and bilayers, membrane transport, assembly of cellular and viral membranes, properties of membranes of tumor cells. Mr. Fox

105. Bacterial Diversity. Lecture, three hours; laboratory, six hours. Prerequisite: course 101. The biology of the major groups of bacteria, and the application of elective culture procedures. Mr. Rittenberg (Sp)

106. Principles of Microbial Ecology. Lecture, three hours. Prerequisites: Biology 4A-4B or 5, 7; Chemistry 23; Microbiology majors must have completed Microbiology 101. An introduction to the interactions of microbes and their environment, stressing the basic biological, biochemical, and physiological elements controlling growth in selected habitats and systems. Mr. Mah, Mr. Nierlich (W)

108. Hematology. (½ course) Prerequisite: senior standing and consent of the instructor. Diagnostic procedures used for the study of normal and pathological blood cells. Ms. Harvey (W)

110. The Microbiology of Infection. Lecture, three hours, laboratory, six hours. Prerequisite: Microbiology 101, 102 and Chemistry 152, or consent of the instructor. The salient characteristics of bacteria, rickettsiae, and viruses, both pathogenic and adventitious, associated with diseases of man. Mr. Pickett (F)

110C. The Laboratory Diagnosis of Infection. Lecture, two hours; laboratory, nine hours. Prerequisite: Microbiology 110. Techniques in the laboratory examination of clinical material. Mr. Pickett (W)

111. Structure and Assembly in Bacteria. Lecture, three hours, discussion, one hour. Prerequisite: Microbiology 101 and Chemistry 152; or consent of instructor. A review of current knowledge of the structural organization of procaryotic cells. Emphasis on isolation methods, chemical composition, structure and assembly of subcellular components, including membranes, walls, flagella, ribosomes and viruses. Mr. Collier, Mr. Eiserling, Ms. Wisnieski (W)

113. Bacterial Metabolism. Lecture, three hours; discussion, one hour. Prerequisite: Chemistry 152; or consent of instructor. The major patterns of energy generation and biosynthesis, and their regulation. Discussion sections on selected topics will be centered around readings from the current literature. Ms. Lascelles (F)

***119. Phage and Bacterial Genetics.** Lecture, three hours. Prerequisite: courses 102, M132, or consent of instructor. Genetics of bacteria and bacteriophage with emphasis on mechanisms of transmission and recombination, episomes and viral reproduction. Mr. Wilcox (Sp)

M132. Comparative Genetics. (Same as Biology M132.) Lecture, three hours; discussion, one hour. Prerequisites: Biology 4A-4B or 5, 7 with grades of C or better, or consent of the instructor. Chemistry 23 or equivalent course in biochemistry, or consent of instructor. Mendelian principles; the gene: its structure, function, and chemistry, with emphasis on mutation, coding regulation, and transmission. Not open to students who have had Biology 134. The Staff

151. Principles of Food Microbiology. Lecture, three hours. Prerequisite: course 101 (or equivalent with consent of instructor). The course covers the fundamental principles of food microbiology. Emphasis is on basic microbiological principles as they apply to food products and processing. The approach is science-oriented rather than technology oriented. The course will have as a formal prerequisite Bacteriology 101, or its equivalent, which in turn has as prerequisites a year of general chemistry and a year of organic chemistry and Biochemistry. The course will consist of a series of formal lectures with an assigned text and readings in past and current research literature in food microbiology. Mr. Silliker (Sp)

M185. Immunology. (Same as Biology M185 and Microbiology and Immunology M185.) Lecture, three hours; discussion, one hour. Prerequisites: Chemistry 23, 25; course M132. Concurrent enrollment in Chemistry 152 or 156 is recommended. Introduction to experimental immunobiology and immunochemistry; cellular and molecular aspects of humoral and cell immune reactions. Mr. Clark, Mr. Sercarz (F)

M186. Immunology Laboratory. (½ course) (Same as Biology M186 and Microbiology and Immunology M186.) Laboratory, four hours. Prerequisites: course M185 and consent of instructor. This course will focus on a limited number of situations designed to train the student in organizing and evaluating immunological laboratory experiments. Must be taken concurrently with Microbiology M187. Mr. Clark, Mr. Sercarz (W)

M187. Immunology Seminar. (½ course) (Same as Biology M187 and Microbiology and Immunology M187.) Discussion, two hours. Prerequisites: course M185 and consent of instructor. Student presentation of selected papers from the immunology literature. Designed to serve as a forum for the critical analysis of research papers. Must be taken concurrently with Microbiology M186. Mr. Clark, Mr. Sercarz (W)

M188. Immunological Techniques. (½ course) (Same as Microbiology and Immunology M188.) Prerequisites: course M185 with an A grade; consent of instructor. Techniques in immunochemistry and immunobiology. State of the art advanced technology for performance of experiments in modern immunology in a workshop format. Each workshop is of approximately two full days duration. Mr. Sercarz (W)

195. Proseminar. (½ course) Discussion, one hour. Prerequisite: senior standing and consent of instructor. Small groups of students and instructor discuss current research literature. Topic announced each quarter. Enrollment limited. The Staff (F,W,Sp)

199. Special Studies in Microbiology. (½ to 4 courses) Prerequisites: open only to students with superior academic standing, and consent of instructor and Department Chairman, based on written research proposal. Maximum enrollment for four quarters. The Staff (F,W,Sp)

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

MICROBIOLOGY AND IMMUNOLOGY

(Department Office, 43-239 Center for Health Sciences; Graduate Student Affairs Office, 43-312 Center for Health Sciences)

Although the Department of Microbiology and Immunology does not present courses in Microbiology in the undergraduate series, there are a number of the graduate courses in which undergraduates may enroll with consent of instructor. Among such offerings are MI 208 (Virology), MI 210 (Mycology), MI 214 (Bacterial Pathogenesis) and MI 250 (Topics in New Biology). Undergraduates should consult the Graduate Catalogue for other opportunities of this sort.

The following upper division courses are offered by the department, with enrollment restrictions as indicated.

Upper Division Courses

M185. Immunology. (Same as Microbiology M185 and Biology M185.) Prerequisites: course M132; Chemistry 22 and 24; concurrent enrollment in Chemistry 152 or 156 is recommended. Introduction to immunobiology and immunochemistry. Cellular and molecular aspects of humoral and cell-mediated immune reactions. The Staff (F)

M186. Immunology Laboratory. (½ course) (Same as Biology M186 and Microbiology M186.) Prerequisite: course M185 and consent of instructor. This course will focus on a limited number of situations designed to train the student in organizing and evaluating immunological laboratory experiments. Must be taken concurrently with M187.
Mr. Clark, Mr. Sercarz

M187. Immunology Seminar. (½ course) (Same as Microbiology M187 and Biology M187.) Prerequisites: Microbiology M185 and consent of instructor. Student presentation of selected papers from the immunology literature. Designed to serve as a forum for the critical analysis of research papers. Must be taken concurrently with Microbiology and Immunology M186.
Mr. Clark, Mr. Sceraz (W)

M188. Immunological Techniques. (½ course) (Same as Microbiology M188.) Prerequisites: course M185 with an A grade; consent of instructor. Techniques in immunochemistry and immunobiology. State of the art advanced technology for performance of experiments in modern immunology in a workshop format. Each workshop is of approximately two full days duration. Mr. Sercarz (W)

199. Directed Individual Research Studies in Microbiology and Immunology. (½ to 2 courses) Prerequisites: senior standing and consent of instructor, based on written research proposal. Individual research projects carried out under direction of individual professor. The Staff

MILITARY SCIENCE

(Department Office, 127 Men's Gymnasium)

Peter A. Gray, M.A., *Lieutenant Colonel, Military Police Corps, Professor of Military Science.*
Eric K. Azuma, M.S., *Major, Chemical Corps, Assistant Professor of Military Science.*
Lawrence C. Hinkle, M.S., *Major, Signal Corps, Assistant Professor of Military Science.*
Frederick R. Jones, M.Ed., *Major, Air Defense Artillery, Assistant Professor of Military Science.*
Barrie A. Town, M.A., *Captain, Infantry, Assistant Professor of Military Science.*
Phillip S. Taylor, M.S., *Captain, Artillery, Assistant Professor of Military Science.*

Army Reserve Officers' Training Corps

The Department offers a general Military Science curriculum which conforms to the academic pattern of the UCLA campus. Military Science classes are open to all students; enrollment as an ROTC cadet is not required. Cross-enrollment is available through the UCLA Extension for students attending other colleges that do not offer Army ROTC.

The Military Science curriculum is a part of the Army Reserve Officers Training Corps (ROTC) program. Enrollment in the ROTC program is on a voluntary basis and is limited to qualified full-time male and female students.

The Military Science curriculum is divided into two parts: (1) the Basic Course, two years of lower division study to prepare the student for advanced instruction, and (2) the Advanced Course, two years of upper division study. Satisfactory completion of the Advanced Course and attainment of a Bachelor degree leads to a commission as a second lieutenant in the Army Reserve, National Guard, or Active Army. Distinguished students may qualify for a commission in the Regular Army.

Transfer students and others who were unable to enroll in the Basic Course can receive equivalent credit by attending a six-week camp during the summer between their sophomore and junior year. Successful completion of this camp will qualify the student for direct entry into the Advanced Course. Attendees are given an allowance for travel expenses and are paid for attendance. Equivalent ROTC credit is granted to those students who have participated in the Junior ROTC program for a minimum of two years.

Eligible veterans and members of the Reserve or National Guard can enroll directly into the Advanced Course. Veterans may receive VA benefits concurrently with Advanced Course subsistence allowances.

Admission to the Advanced Course is limited to selected students who meet all academic and physical requirements. Enrolees in this course receive a subsistence allowance of $100 for each of the twenty academic months. Upon completion of the Advanced Course and fulfillment of degree requirements, the student is commissioned as a second lieutenant in one of the Army's speciality areas. Insofar as possible, the student's desires and academic major will be considered.

Students selected for Advanced ROTC must attend a six-week Advanced Camp between their junior and senior years. Attendees will receive an allowance for travel expenses and are paid for attendance.

Army ROTC scholarships are available for various terms to selected applicants. Scholarships pay all costs associated with tuition, books, and other student fees. In addition, scholarship recipients receive a subsistence allowance of $100 per month for the academic year. Full four-year scholarships are offered to high school seniors selected by national competition. Three, two, and one-year scholarships are also available.

The active duty obligation for those students selected to enter the Reserves or National Guard is only three months. Students accepting ROTC Scholarships, a commission in the Regular Army, or who choose to enter the Active Army will serve longer terms. ROTC students desiring to obtain advanced degrees may be granted a delay in reporting to their initial assignment. For further information contact the Department of Military Science located in the Men's Gym, telephone 825-7384, or 825-7381.

Four-Year Program. Students are enrolled in the Basic Course (Freshman and sophomore years) on a voluntary basis. Upon completion of the Basic Course and entrance into the Advanced Course (Junior and Senior years), students are required to execute a contract with the Department of the Army agreeing to complete the Advanced Course, enlist in the United States Army Reserve, and accept a commission if offered. Advanced Course students receive $100 subsistence allowance per academic month, military science books, and uniforms.

Two-Year Program. This program is primarily designed for students with prior military service or three years of Junior ROTC in high school. In addition, students that do not have any prior military experience and have less than four years of schooling remaining may qualify for this program by attending an ROTC basic camp offered in the summer. Students receive allowances for travel expenses and are paid for camp attendance. Upon successful completion of this basic camp, the student will enter the advanced course under the same requirements as stated for the four-year program.

11. U.S. Defense Establishment. (½ course) A study of the evolution of the U.S. Department of the Defense; includes a study of the military services, with emphasis on the U.S. Army. Capt. Taylor

12. U.S. Defense Establishment. (½ course) A study of the military institution and other elements of national power as instruments of national policy and strategy in conditions of peace and war.
Capt. Taylor

13. Theory of Warfare. (½ course) Inquiry into the theory, nature, causes, and elements of warfare, with attention also directed to the evolution of weapons and warfare. Capt. Taylor

21. United States Military History. (½ course) Prerequisite: CADET: Completion of Military Science 11, 12, and 13 or equivalent; NON-CADET: College student. In depth study of U.S. Army from 1755-1860, with emphasis on leaders and combat actions. An introductory survey of opposing strategies and relationships to the men leading and serving in the U.S. Army. Capt. Town

22. United States Military History. (½ course) Prerequisite: CADET: Completion of Military Science 11, 12, and 13 or equivalent; NON-CADET: College student. In depth study of the U.S. Army from the beginning of the Civil War to World War II (1860-1939) with emphasis on leadership at all levels and campaigns involving the U.S. Army. Emphasis on the development of strategy and combat operations of both sides. Capt. Town

23. United States Military History. (½ course) Prerequisite: CADET: Completion of Military Science 11, 12, and 13 or equivalent; NON-CADET: College student. In depth study of the U.S. Army from World War II to present, with emphasis on strategies and leadership on both sides.
Capt. Town

111. Psychology of Leadership. (½ course) Prerequisite: CADET: Completion of Basic Course or equivalent; NON-CADET: Upper division standing. Introduction to Psychology 10 (for both). Familiarization of the student with current concepts in the behavioral sciences which builds the theoretical framework for understanding human behavior in relating to the basic problems of management and the organizational context of leadership. Emphasis is placed on the leader/manager problems of directing and controlling resources.
Maj. Azuma

112. Theory of Learning Applied to Teaching I. (½ course) Prerequisite: CADET: Completion of Basic Course or equivalent; NON-CADET: upper division standing. An examination of learning theories to support development of knowledge, skills and attitudes necessary for the instructing-teaching application. Emphasis is placed on the education/instructional processes. Maj. Jones

113. Theory of Learning Applied to Teaching II. (½ course) Prerequisite: CADET: Completion of Basic Course or equivalent; NON-CADET: upper division standing, completion of Military Science 112 or equivalent (both). A study of instructional processes, lesson content planning procedures, techniques for applicatory education, role of testing including evaluation and analysis. Emphasis is placed on improvement of teaching and group process. Maj.Jones

123. Military Legal Systems. (½ course) Prerequisite: CADET: first year Advanced Military

NOTE: For key to symbols, see pages 65 and 66

Science; NON-CADET: upper division standing. An introduction to the theory and application of military law and legal systems. Course focuses on the Uniform Code of Military Justice and the rights of the accused under the constitution. LTC. Gray

124. Military-Societal Relations. (½ course) Prerequisite: CADET: First year Advanced Military Science, Management 190, and Political Science 138A, or equivalent; NON-CADET: upper division standing, Political Science 138A, or equivalent. An advanced study of the U.S. Army as a professional organization: its relationship to society; professional ethics; and social problems. Maj. Hinkle

125. Decision-making. (½ course) Prerequisite: CADET: one introductory course in Probability and Statistics, one course in Computer Science and Management 190; NON-CADET: same as for cadet; consent of instructor. Theory of decision-making, functions of the decision-making process, optimizing decisions, information systems, operations research, systems management. Maj. Hinkle

MOLECULAR BIOLOGY (INTERDEPARTMENTAL)

(Molecular Biology Institute Bldg. Room 171)

Undergraduate Study

Undergraduate studies which readily lead to advanced work or employment in the molecular biology area include undergraduate majors in biochemistry, biology, or physics. Students may wish to supplement their course programs in consultation with the appropriate undergraduate advisers. For information on graduate degree programs in this department, please consult the Graduate Catalog.

MUSIC

(Department Office, 2449 Schoenberg Hall)

Elaine R. Barkin, Ph.D., *Professor of Music.*
Murray C. Bradshaw, Ph.D., *Professor of Music.*
Peter C. Crossley-Holland, M.A., *Professor of Music.*
Frank A. D'Accone, Ph.D. *Professor of Music.*
Paul E. Des Marais, M.A., *Professor of Music.*
Maurice Gerow, Ph.D., *Professor of Music.*
Marie Louise Gollner, Ph.D., *Professor of Music (Chairman of the Department).*
Richard A. Hudson, Ph.D., *Professor of Music.*
William R. Huchinson, Ph.D., *Professor of Music.*
Nazir A. Jairazbhoy, Ph.D., *Professor of Music.*
Henri Lazarof, M.F.A., *Professor of Music.*
Jan C. Maegaard, Ph.D., *Professor of Music.*
David Morton, Ph.D., *Professor of Music.*
J.H.K. Nketia, B.A., *Professor of Music.*
Gilbert Reaney, M.A., *Professor of Music.*
Abraham A. Schwadron, Mus. A.D., *Professor of Music.*
Robert M. Stevenson, Ph.D., *Professor of Music.*
Roy E. Travis, M.A., *Professor of Music.*
Robert L. Tusler, Ph.D., *Professor of Music.*
D.K. Wilgus, Ph.D., *Professor of English and Anglo-American Folk Song.*
Edwin H. Hanley, Ph.D., *Emeritus Professor of Music.*
Mantle L. Hood, Ph.D., *Emeritus Professor of Music.*
Boris A. Kremenliev, Ph.D., *Emeritus Professor of Music.*
W. Thomas Marrocco, Ph.D., *Emeritus Professor of Music.*
Robert U. Nelson, Ph.D., *Emeritus Professor of Music.*
H. Jan Popper, Ph.D., *Emeritus Professor of Music.*
Clarence E. Sawhill, Mus. D., *Emeritus Professor of Music.*
Alden B. Ashforth, Ph.D., *Associate Professor of Music.*
Malcolm S. Cole, Ph.D., *Associate Professor of Music.*
Frederick F. Hammond, Ph.D., *Associate Professor of Music.*
James W. Porter, M.A., *Associate Professor of Music.*
Paul V. Reale, Ph.D., *Associate Professor of Music.*
Robert S. Winter, M.A., *Associate Professor of Music.*
David E. Draper, Ph.D., *Assistant Professor of Music.*
Max. L. Harrell, Ph.D., *Assistant Professor of Music.*
Charlotte A. Heth, Ph.D., *Assistant Professor of Music.*
Kathleen R. Murray, Ph.D., *Assistant Professor of Music.*
A. Jihad Racy, Ph.D., *Assistant Professor of Music.*
James E. Westbrook, D.M.A., *Assistant Professor of Music.*

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Gerlad E. Anderson, M.S., *Lecturer in Music.*
Salome R. Arkatov, M.A., *Lecturer in Music.*
Edward Auer, B.M., *Lecturer in Music.*
Aubrey J. Bouck, B.M., *Lecturer in Music.*
Majorie Call, B.M., *Lecturer in Music.*
Mario Carta, *Adjunct Assistant Professor of Music.*
Jacqueline C. Dje Dje, Ph.D., *Acting Assistant Professor of Music.*
Jeffrey Goodman, M.A., *Lecturer in Music.*
Gary C. Gray, M.M., *Lecturer in Music.*
John A. Guarnieri, *Lecturer in Music.*
John L. Hall, M.M., *Lecturer in Music.*
Thomas F. Harmon, Ph.D., *Lecturer in Music and University Organist.*
Johana Harris, *Lecturer in Music.*
Maureen D. Hooper, Ed.D., *Lecturer in Music.*
Freeman K. James, M.A., *Senior Lecturer in Music.*
John T. Johnson, B.M., *Lecturer in Music.*
Bess Karp, M.A., *Lecturer in Music.*
Leon Knopoff, Ph.D., *Professor of Geophysics and Physics.*
Samuel Krachmalnick, *Senior Lecturer in Music.*
Kobla Ladzekpo, B.F.A., *Lecturer in Music.*
Sidney M. Lazar, M.A., *Lecturer in Music.*
Danny Lee, *Lecturer in Music.*
James R. Low, B.M., *Lecturer in Music.*
Tsun Y. Lui, *Lecturer in Music.*
Shirley L. Marcus, B.M., *Lecturer in Music.*
Theodore Norman, *Lecturer in Music.*
Michael R. O'Donovan, *Lecturer in Music.*
Nils Oliver, M.M., *Lecturer in Music.*
Barbara R. Patton, B.A., *Lecturer in Music.*
Mitchell T. Peters, M.M., *Lecturer in Music.*
Stanley E. Plummer, *Lecturer in Music.*
David Raksin, B.M., *Lecturer in Music.*
Sven H. Reher, M.A., *Lecturer in Music.*
Peggy Ann Sheffield, M.M., *Lecturer in Music.*
Donald J. Staples, B.A., *Lecturer in Music.*
Sheridon W. Stokes, *Lecturer in Music.*
Paul O. W. Tanner, M.A., *Lecturer in Music.*
Suenobu Togi, *Lecturer in Music.*
Alexander Treger, *Lecturer in Music.*
Aube Tzerko, B.M., *Senior Lecturer in Music.*
Allan Vogel, M.M.A., *Lecturer in Music.*
Roger Wagner, Mus.D., *Senior Lecturer in Music.*
Donn E. Weiss, M.M., *Senior Lecturer in Music.*
Erwin Windward, B.A., *Lecturer in Music.*
Ikuko Yuge, *Lecturer in Music.*
Paul Zibits, M.M., *Lecturer in Music.*

Requirements for Entering Music Students

All applicants for admission are required to pass an audition in their principal performing medium.

Students planning to complete a major in music whether or not they have taken courses elsewhere, are required to pass a piano skills test. Aptitude and achievement tests are required for enrollment in Theory of Music 17A. These examinations are administered during registration week only. Students with exceptional ability and achievement may satisfy lower division requirements in Theory of Music by examination. Further information may be obtained from the Department of Music.

General Requirements

All music majors will be required to complete two years of applied music instruction in their major performance medium at the intermediate or advanced level.

All music majors must enroll in a performance organization for no credit each quarter in residence. They must participate in a minimum of two different organizations, one of which must be from 90A-90H or 91A-91Z.

Preparation for the Major

Courses 17A through F, 26A-26B-26C. Three quarters of either French, German, or Italian, or the equivalent. Students who plan to specialize in Historical or Systematic Musicology are urged to take six quarters, or the equivalent, of German.

The Major

A minimum of 10 courses in the upper division, including 105 or 107A, 126A-126B-126C; five courses selected from one of the specializations listed below and one course free elective for all areas except music education.

1. Composition and Theory: courses 106A-106B, 107B-107C and one elective course from 101, 103A-103B, 104A-104B, 108, 109A-109B-109C, 110A-110B, 111A-111B, 140-149, and 156A-156B.

2. History and Literature: one course from 127A-127C; one course from 127D-127F, one course from 140A-140B-140C, and two electives from 104A-104B, 108, 130-131, 133-135, 151A-151B, 156-157, 187 and 188A-188Z.

3. Ethnomusicology: 140A-140B-140C, and two courses selected from 108, 127A-127F, 131A-131B, 141-143, 145-149, 152, 153A-153B-153C, 157, and 190A-190B.

4. Applied Music: Two courses in applied music 160-165, one course from 175 and 8 units of elective no more than 4 of which can be additional chamber ensembles. Recommended: 101, 110A-110B, 111A-111B, 112A-112B, 119A-119B-119C, 127A-127F, 135A-135B-135C, 139, 140A-140B-140C, 151A-151B, or 187.

5. Music Education: 193, 195, 100A-100B-100C, 110A, 111A, eight units from 115A-115E, and two units of electives selected under advisement from 110B, 111B, 112A-112B, 140A-140B-140C, 185, 187, and 199.

6. Systematic Musicology: five courses from the following list, taken on the advice and with the approval of the undergraduate adviser in systematic musicology. Music 103A-103B, 108, 137B, 140A-140B-140C, 149, 187, 199, and Anthropology 144.

Lower Division Courses

1A-1B. Fundamentals of Music. (Formerly numbered 1.) Lecture, three hours; laboratory, two hours. Prerequisite: For Music 1B: 1A or consent of the instructor. Music 1A: Sight-singing, ear training, reading music, and harmonization of simple melodies. Music 1B: diatonic harmony; four-part writing, including inversions, 7ths, secondary dominants and modulation; organization of melody and accompaniment; simple analysis; advanced sight-singing and ear training.
Mrs. Karp, Mrs. Patton

2A-2B. Introduction to the Literature of Music. (Formerly numbered 2A-2B-2C.) Lecture, four hours; laboratory, one hour. Prerequisite: designed for the non-music major. 2A surveys the technical and formal principles of music literature through the mid-eighteenth century; 2B surveys music literature from the mid-eighteenth century to the present. The Staff

4A-4B-4C. Basic Musicianship. (No Credit) Laboratory, three hours. Remedial class instruction in ear-training and keyboard skills.
Miss Sheffield

5A-5B-5C. Fundamentals of Sound and Music of the World. (½ course each) Prerequisite: consent of the instructor. The acoustical make-up of sound (pitch, tone quality); tuning systems; modes and scales; harmony and polyphony, rhythm and meter; notational systems; relationships of music to culture. Laboratory: Ear training and instrumental techniques. Mr. Draper, Mr. Hutchinson

10. Computer Assisted Sight-Singing Laboratory. (½ course) Three hours weekly, including one laboratory hour. Prerequisites: course 1 or its equivalent and consent of the instructor. An individualized, self-instructional approach for the development of sight-singing skills through the use of a music computer, keyboard instrument, and linear program learning. Mr. Gerow

16. Contrapuntal Techniques. (½ course) Three hours weekly. Prerequisites: One year of music theory. Not open to students who have received credit for 17ABC. Must be taken concurrently with 17D. Introduction to two- and three-part species counterpoint; will include written exercises and analysis. The Staff

17A-17F. Theory of Music. Eight hours weekly, including four laboratory hours. Prerequisites: Aptitude, Achievement and the Piano Skills Test. Series must be taken in order A, B, C, D, E, F. An integrated study of theoretical and practical techniques. First Year: harmony through chromatic embellishment of diatonic progressions; elementary contrapuntal techniques; structural analysis; keyboard skills including open-score clef-reading and figured bass; melodic and rhythmic dictation

and sight-singing. Second Year: advanced harmony through modulations and total chromaticism; stylistic counterpoint including motet and invention; basic instrumentation; advanced keyboard skills; dictation and sight-singing of modulating melodies. The Staff

18A-18B-18C. Keyboard Techniques. (½ course each) Two hours weekly. Prerequisites: courses 17A-17B-17C; 18A is prerequisite to 18B; 18B is prerequisite to 18C. This course is an intensive workshop in the development of keyboard skills and is designed to supplement the development of keyboard facility beyond 17C. Techniques of figured bass, score reading, transposition, and keyboard harmony will be stressed. Mrs. Karp

19. Instrumentation. (½ course) Two hours weekly. Prerequisite: Two years of music theory. Not open to students who have received credit for 17A through 17F at UCLA. The study of ranges and transpositions of all orchestral instruments; instrumental characteristics, exercises in orchestration, and orchestral analysis. The Staff

26A-26B-26C. History and Literature of Music I. Five hours weekly, including one laboratory hour. Prerequisites: courses 17A-17B-17C. 26A is prerequisite to 26B; 26B is prerequisite to 26C. The history and literature of music from the beginning to the Christian era to 1750, with emphasis upon analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of composition. The Staff

60-65. Applied Study of Music Literature: Intermediate. (1 course per year) For Music Majors Only. Private instruction of one hour per week. Prerequisite: Audition. May be repeated for credit in entire year sequence only. This course is offered on an In-Progress basis, which requires students to complete the full three-quarter sequence, at the end of which time a grade is given for all quarters of work. Students will be admitted in the Fall Quarters only. All students must perform in a practicum once during the academic year. Examination by jury in Spring Quarter.

Strings: 60A. Violin; **60B.** Viola; **60C.** Cello; **60D.** String Bass; **60E.** Harp; **60F.** Classical Guitar; **60G.** Viola da gamba; **60K.** Lute.

Woodwinds; 61A. Flute; **61B.** Oboe; **61C.** Clarinet; **61D.** Bassoon; **61E.** Saxophone.

Brass; 62A. Trumpet; **62B.** French Horn; **62C.** Trombone; **62D.** Tuba.

Percussion: 63. Percussion.

Keyboard: 64A. Piano; **64B.** Organ; **64C.** Harpsichord.

Voice: 65. Voice.

80A-80N. Performance Organizations. (¼ course each) *For Non-Music Majors Only.* (90A-90N is for the music major) Three hours weekly. Prerequisite: Audition. May be repeated for credit.

80A.A Cappella Choir; **80B.** University Chorus; **80C.** Madrigal Singers; **80D.** Opera Workshop; **80E.** Symphony Orchestra; **80F.** Concert Band; **80G.** Symphonic Wind Ensemble; **80H.** Collegium Musicum; **80J.** Men's Glee Club; **80K.** Women's Glee Club; **80L.** Musical Comedy Workshop; **80M.** Marching and Varsity Bands; **80N.** Jazz Band.

81A-81Z. Ethnomusicology Performance Organizations. (¼ course each) *For Non-Music Majors Only.* (91A-91Z is for the music major) Three hours weekly. Prerequisite: consent of the instructor. May be repeated for credit.

81A. Music and Dance of the American Indian; **81B.** Music and Dance of Bali; **81C.** Music and Dance of Bulgaria; **81D.** Music and Dance of China; **81E.** Music and Dance of Ghana; **81F.** Music and Dance of India; **81G.** Music and Dance of Japan; **81H.** Music of Java; **81J.** Music of Korea; **81K.** Music of Mexico; **81L.** Music of Persia; **81M.** Music of Thailand; **81N.** Music of the Near East; **81Z.** Open Ensemble.

90A-90N. Performance Organizations. (No Credit) *For Music Majors Only.* (80A-80N is for the non-music major) Three hours weekly. Prerequisite: Audition. May be repeated. Music majors may enroll in only one performance organization per quarter.

90A.A Cappella Choir; **90B.** University Chorus; **90C.** Madrigal Singers; **90D.** Opera Workshop; **90E.** Symphony Orchestra; **90F.** Concert Band; **90G.** Symphonic Wind Ensemble; **90H.** Collegium Musicum; **90J.** Men's Glee Club; **90K.** Women's Glee Club; **90L.** Musical Comedy Workshop; **90M.** Marching and Varsity Bands; **90N.** Jazz Bands.

91A-91Z. Ethnomusicology Performance Organizations. (No credit) *For Music Majors Only.* (81A-81Z is for the non-music major) Three hours weekly. Prerequisite: consent of the instructor. May be repeated. Music majors may enroll in only one performance organization per quarter.

91A. Music and Dance of the American Indian; **91B.** Music and Dance of Bali; **91C.** Music and Dance of Bulgaria; **91D.** Music and Dance of China; **91E.** Music and Dance of Ghana; **91F.** Music and Dance of India; **91G.** Music and Dance of Japan; **91H.** Music of Java; **91J.** Music of Korea; **91K.** Music of Mexico; **91L.** Music of Persia; **91M.** Music of Thailand; **91N.** Music of the Near East; **91Z.** Open Ensemble.

Upper Division Courses

100A-100B-100C. Music in American Education. (½ course each) Three hours weekly. Prerequisites: courses 17A-17F. 26A-26B-26C, 193, and 195. 110A is prerequisite to 100B; 111A is prerequisite to 100C. 100A is not prerequisite to 100B; 100B is not prerequisite to 100C. A critical study of principles and practices in music education, historical and current, at elementary and secondary levels. 100A. General Music; 100B. Choral Music; 100C. Instrumental Music. 100A-100B-100C may be taken in any order. The Staff

101. Keyboard Harmony and Score Reading. Four hours weekly. Prerequisites: courses 17A-17F. Emphasizes the reading of figured bass, sequences, modulations in the harmonic vocabulary of the 18th and 19th centuries. Reading at the piano of multistaff notation, the various C clefs, and parts for transposing instruments; chamber music and simple orchestral scores. Mr. Des Marais

103A-103B. Advanced Theory. Three hours weekly. Prerequisites: courses 17A-17F. 103A or consent of the instructor is prerequisite to 103B. Techniques of tonal coherence studied through analysis and compositional exercises in the styles of given periods. Mr. Travis

***104A-104B. Advanced Counterpoint.** Three hours weekly. Prerequisites: courses 17A-17F. 104A or consent of the instructor is prerequisite to 104B. Comparative contrapuntal practices and forms from all periods studied through analysis and compositional exercises in the styles of the given periods. (Not open to students who have received credit for 104 or 105.)

105. Introduction to Composition. Three hours weekly. Prerequisites: courses 17A-17F. This course is intended for music majors whose specializations are in areas other than composition. The nature of the compositional process will be explored with selected exercises exploring specific techniques and styles. Mr. Morton, Mr. Reale

106A-106B. Advanced Orchestration. Three hours weekly. Prerequisites: courses 17A-17F. Course 106A is prerequisite to 106B. Scoring and analysis for ensembles and full orchestra. (106A is not open to students who have received credit for 106B; 106B is not open to students who have received credit for 106C.)

107A-107B-107C. Composition. Three hours weekly. Prerequisites: courses 17A-17F. 107A is prerequisite to 107B; 107B is prerequisite to 107C. This course is designed for students specializing in composition and theory. Vocal and instrumental composition in the smaller forms, including style composition and 20th century techniques. Mrs. Barkin

108. Acoustics. Three hours weekly. Prerequisite: consent of the instructor. The interrelationship of acoustical and musical phenomena. Tuning systems, consonance and dissonance, tonal quality. Lecture, demonstration, and discussion and tours of instrumental collections and acoustical research facilities. Mr. Hutchinson

109A-109B-109C. Composition for Motion Pictures and Television. (½ course each) Two hours weekly. Prerequisites: courses 17A-17F or consent of the instructor. 109A is prerequisite to 109B; 109B is prerequisite to 109C. Composition of music for the dramatic and documentary film in cinema and television. Techniques used in recording and editing. Mr. Raksin

110A-110B. Study and Conducting of Choral Literature. (½ course each) Three hours weekly. Prerequisite: courses 17A-17F and 26A-26B-26C. 110A is prerequisite to 110B. The theory and practice of conducting as related to the study of choral works from the Renaissance to the present day. **110A.** Conducting fundamentals including basic skills, techniques, analysis and repertoire. **110B.** Stylistic interpretation of music literature. Mr. Weiss

111A-111B. Study and Conducting of Instrumental Literature. (½ course each) Three hours weekly. Prerequisite: courses 17A-17F and 26A-26B-26C. 111A is prerequisite to 111B. The theory and practice of conducting as related to the study of instrumental works for string and wind ensembles. **111A:** Conducting fundamentals including basic skills, techniques, analysis and repertoire. **111B:** Stylistic interpretation of music literature. Mr. James

112A-112B. Practical Scoring. Four hours weekly. Prerequisites: courses 17A-17F, 26A-26B-26C, and consent of the instructor. Emphasis on practical problems in scoring for small and large ensembles at various educational levels. **112A.** Band Scoring; **112B.** Choral Scoring. Mr. James, Mr. Weiss

113A-113B. Music Literature for Children. Four hours weekly, including one laboratory hour. Prerequisites: course 1, 2A, or consent of the instructor. 113A is not prerequisite to 113B. Designed for the non-music major, particularly the elementary education student. A study of music literature applicable to elementary school programs. 113A: Emphasis on listening analysis, movement, and improvisation. 113B: Emphasis on class performance – music reading, singing, and folk instruments. Mr. Gerow, Miss Hooper

115A-115E. Study of Instrumental and Vocal Techniques. (½ course each) Five hours weekly, Prerequisites: courses 17A-17F, 26A-26B-26C, and 193. Applied studies in basic performance techniques and tutorial materials. **115A.** Strings; **115B.** Woodwinds; **115C.** Brass; **115D.** Percussion; **115E.** Voice. Mr. Anderson, Mr. Gerow

118. Advanced Study and Conducting of Orchestral Literature. (½ course) Lecture, one hour; laboratory, 2 hours. Prerequisites: Music 111A-111B, or consent of instructor. Detailed investigation of musical styles of orchestral literature, performance practices and rehearsal techniques. Preparation by student to conduct an established student chamber ensemble. Mr. Krachnalnick

119A-119B-119C. Advanced Study and Conducting of Choral Literature. (½ course each) Three hours weekly. Prerequisites: courses 110A-110B. 119A is prerequisite to 119B; 119B is prerequisite to 119C. Advanced theory and practice of conducting; the study of representative choral works from the conductor's viewpoint. Mr. Wagner

126A-126B-126C. History and Literature of Music II. Five hours weekly, including one laboratory hour. Prerequisites: courses 17A-17F and 26A-26B-26C. 126A is prerequisite to 126B; 126B is prerequisite to 126C. The history and literature of music from 1750 to the present with emphasis upon

NOTE: For key to symbols, see pages 65 and 66

analysis of representative works of each style period. Materials selected will illustrate the history of style and changing techniques of composition. The Staff

127A-127F. Selected Topics in the History of Music. Three hours weekly. Special aspects of the music of each period, studied in depth. Each course may be repeated once for credit by graduate students only. **127A.** Middle Ages; **127B.** Renaissance; **127C.** Baroque; Prerequisites: course 17A-17F and 26A-26B-26C. **127D.** Classic. Prerequisites: courses 17A-17F, 26A-26B-26C, and 126A. **127E.** Romantic. Prerequisites: courses 17A-17F, 26A-26B-26C, and 126A-126B. **127F.** Twentieth Century. Prerequisites: courses 17A-17F, 26A-26B-26C, and 126A-126B-126C. The Staff

*[1]**130. Music of the United States.** Four hours weekly. Prerequisite: course 2A or consent of the instructor. A survey of art music from colonial times to the present. Mr. Stevenson

131A-131B. Music of Hispanic America. Four hours weekly. Prerequisites: consent of the instructor. 131A is not prerequisite to 131B. Survey of art music including attention to ethnic developments and Peninsular background. **131A.** Mexico, Central America and the Caribbean isles; **131B.** Hispanic South America. Mr. Stevenson

132A-132B. Development of Jazz. Four hours weekly, including one laboratory hour. Prerequisite: course 2A or consent of the instructor. Course 132A is prerequisite to 132B. An introduction to jazz; its historical background and its development in the United States. Mr. Tanner

133. Bach. Four hours weekly, including two laboratory hours. The life and works of Johann Sebastian Bach. Mr. Harmon, Mr. Tusler

134. Beethoven. Four hours weekly, including two laboratory hours. The life and works of Ludwig von Beethoven. Mr. Bradshaw, Mr. Cole

135A-135B-135C. History of the Opera. Five hours weekly, including one laboratory hour. **135A:** Opera of the Baroque and Classical Periods; **135B:** Opera of the Romantic Period; **135C:** Opera of the Twentieth Century. Mr. Hammond, Mr. Winter

137A-137B. Psychology of Music. Four hours weekly. 137A: An introduction to the psychology of music; historical background and the broad field of study to include the use of music as a stimulus, tests and measurements, and related modes of musical behavior. 137B: Prerequisites: 17ABC and 26ABC or consent of the instructor. A study of the psychological factors and problems in music from the points of view of the listener, performer, and composer. Ms. Murray

138. Aesthetics of Music. Three hours weekly. Recommended for the non-music major. An historical survey of musical aesthetic thought and practice. Selected readings and musical examples. Mr. Schwadron

*[1]**139. History and Literature of Church Music.** Four hours weekly. Prerequisite: course 2A or consent of the instructor. A study of the forms and liturgies of western church music.

140A-140B-140C. Musical Cultures of the World. Four hours weekly. Prerequisite: consent of the instructor. 140A is not prerequisite to 140B, 140B is not prerequisite to 140C. A survey of the musical cultures of the world (excluding western art music), the role of music in society and its relationship to other arts; consideration will also be given to scale structure, instruments, musical forms and performance standards. Mr. Jairazbhoy, Mr. Porter

141. Survey of Music in Japan. Three hours weekly. A survey of the main genres of Japanese traditional music, including Gagaku, Buddhist chant, Biwa music, Koto music, Shamisen music, and the music used in various theatrical forms. Mr Harrell

*[1]**142A-142B. Music of the Balkans.** Five hours weekly, including two laboratory hours. Prerequisites: courses 140A-140B-140C or consent of the instructor. 142A is prerequisite to 142B. **142A** surveys the folk music of Bulgaria, including a study of eastern and western elements; performance on representative instruments; **142B** investigates vocal and instrumental styles of other Balkan countries, with emphasis on Yugoslavia. (142A-142B is not open to those students who have had 142.)

143A-143B. Music of Africa. Five hours weekly, including two laboratory hours. Prerequisite: courses 140A-140B-140C or consent of the instructor. Course 143A is prerequisite to 143B. An investigation of the historical aspects, social functions and relationships of music to other art forms in selected areas of Africa. Mr. Nketia

144. American Popular Music. Five hours weekly, including two laboratory hours. Prerequisites: course 1 or its equivalent is recommended. A survey of the history and characteristics of American popular music and its relationship to American culture, with emphasis on 20th-century popular music and its major composers, including a comparison between traditional pre-1950 popular music and trends in post-1950 popular music. Mr. Morton

145. History of Chinese Opera. Four hours weekly. Prerequisite: consent of the instructor. A survey of dramatic elements in Chinese operas, incorporating singing, dance, and acrobatics. Emphasis on traditional and modern Peking opera and its relation to Cantonese and other genres. Mr. Lui

*[1]**146A-146B-146C. Studies in Chinese Instrumental Music.** Four hours weekly, including one laboratory hour. Prerequisite: consent of the instructor. 146A is not prerequisite to 146B; 146B is not prerequisite to 146C. 146A: A study of the literature, major sources, paleography, theory, and philosophy of the Ch'in and P'i P'a, including transcription and analysis. 146B: A comprehensive study of Chinese musical instruments, classification system, specific musical notation, and use in the context of Chinese society. 146C: A study of the rules of improvisation, particularly as related to the Shanghai style, as realized on the P'i P'a, Ti, Er Hu, San Shien, Sheo, and related instruments. Mr. Lui

147A-147B. Music of China. Five hours weekly, including two laboratory hours. Prerequisites: courses 140A-140B-140C, or consent of the instructor. 147A is prerequisite to 147B. 147A: History and theory of the music of China, including a survey of various provinces. Instrumental techniques. 147B: Introduction to various notational systems. Analysis of representative styles. 147A is not open for credit to students who have credit for 147. Mr. Lui

148. Folk Music of South Asia. Prerequisite: consent of instructor. An illustrated survey of some of the regional genres, styles, and musical instruments found in India and Pakistan, with special reference to the religious, social, economic, and cultural context of their occurrence. Mr. Jairazbhoy

149. The Anthropology of Music. A cross-cultural examination of music in the context of social behavior, and how musical patterns reflect patterns exhibited in other cultural systems; including economic, political, religious and social structure. Mr. Draper

151A-151B. History of Musical Performance Practices. Four hours weekly. Prerequisites: courses 17A-17F and 26A-26B-26C. A general survey of musical interpretation and re-creation from the viewpoint of stylistic authenticity. **151A** Medieval through Baroque; **151B** Classic through 20th Century. Not open for credit to those who have had 151. Mr. Harmon

*[1]**152. Survey of Music in India.** Four hours weekly. A consideration of the main music genres in India, with particular reference to the religious, socio-cultural and historical background of the country.

153A-153B-153C. Music of the American Indians. Four hours weekly. American Indian music will be studied within the broader context of styles, cultural values, and sources. Films, recordings, lectures, and limited group singing and dancing will relate the music to the culture producing it. **153A:** Musics of the Eastern, California-Yuman, Great Basin, and Northwest Coast areas; **153B:** Musics of the Athabascan, Pueblo, Plains, and modern Pan-Indian trends; **153C:** Sociology of American Indian Music with specific reference to the manner in which cultural values, prescriptions, oral traditions, language and technological advances have affected music of various tribes. Mr. Draper, Ms. Heth

M154A-154B. The Afro-American Musical Heritage. (Same as Folklore M154A-154B.) Four hours weekly. Prerequisite: course 1 or consent of the instructor. 154A is prerequisite to 154B. A study of the Afro-American rhythm, dance music, field hollers, work songs, spirituals, blues, and jazz; the contrast between West African, Afro-American and Afro-Brazilian musical traditions. Ms. Dje Dje

156A-156B. Techniques of Electronic Music. (Formerly numbered 156.) Prerequisites: courses 107A or equivalent and consent of instructor. 156A is not open for credit to students who have credit for 156. 156A is prerequisite to 156B. Manipulation of analog synthesizers and auxiliary equipment, tape techniques, and realization of original compositional materials. Mr. Ashforth

*[1]**157. Music of Brazil.** Four hours weekly. Prerequisites: consent of the instructor and some knowledge of Portuguese. History of ethnic and art music in Brazil with some reference to Portuguese antecedents.

158. New Orleans Jazz. Three hours weekly. Major black and creole figures in the origin and development of jazz in New Orleans from the turn of the twentieth century through the nineteen-sixties, with emphasis on polycultural roots, local municipal traditions, and stylistic analysis. Mr. Ashforth

159. The Development of Rock. Four hours weekly. Prerequisite: consent of the instructor. The history of rock from the 1950's to the 1970's. An in-depth survey of stylistic trends illustrated by pertinent examples and accompanied by extensive musical analysis. Mr. Stevenson

160-165. Applied Study of Music Literature: Advanced. (1 course per year) *For Music Majors Only.* Private instruction of one hour per week. Prerequisite: Audition. May be repeated for credit in entire year sequence only. This course is offered on an In-Progress basis, which requires students to complete the full three-quarter sequence, at the end of which time a grade is given for all quarters of work. Students will be admitted in Fall Quarters only. Applied majors must perform in a noon concert once during their junior year and will be required a full recital in their senior year. All other students enrolled will be required to participate in a practicum once during the academic year. Examination by jury in Spring Quarter.

Strings: 160A. Violin; **160B.** Viola; **160C.** Cello; **160D.** String Bass; **160E.** Harp; **160F.** Classical Guitar; **160G.** Viola Da Gamba; **160K.** Lute.

Woodwinds: 161A. Flute; **161B.** Oboe; **161C.** Clarinet; **161D.** Bassoon; **161E.** Saxophone.

Brass; 162A. Trumpet; **162B.** French Horn; **162C.** Trombone; **162D.** Tuba.

Percussion; 163 Percussion.

Keyboard; 164A. Piano; **164B.** Organ; **164C.** Harpsichord.

Voice: 165. Voice.

175. Chamber Ensembles. (½ course) Two hours weekly. Prerequisite: Audition. Students must be at the advanced level of their instrument to participate in the course. May be repeated for credit. Students may not enroll in more than two sections per quarter and may receive credit for a maximum of 12 units toward the degree. Applied study of the performance practices of literature appropriate to the ensemble. The Staff

M180. Analytical Approaches to Folk Music. (Same as Folklore M180.) Four hours weekly. Prerequisites: Music 5A-5B-5C. An intensive study of the methods and techniques necessary to the understanding of Western folk music. Mr. Porter

M181. Folk Music of Central and Western Europe. (Same as Folklore M181.) Four hours weekly. Prerequisite: Music 5A-5B-5C, or 140A, or 140B, or 140C, or consent of the instructor. An analysis of the folk musical styles of Europe, excluding the Balkans and Soviet Russia. Particular attention will be paid to the comparative study of European folk music. Mr. Porter

184. Experimental Research in Music. Three hours weekly. Prerequisites: courses 17A-17F and 26ABC, or consent of the instructor. Theories and processes in various modes of musical experimentation: physical, perceptual, psychological, pedagogical, quantificational, statistical procedures. Recommended for music majors in all specializations. Ms. Murray

*†185. **Historical and Philosophical Foundations of Music Education.** Three hours weekly. Prerequisites: completion of the undergraduate specialization in music education. The development of music education in the United States according to established schools of thought.

187. Problems in Musical Aesthetics. Three hours weekly. Prerequisites: courses 17A-17F and 26A-26B-26C. Critical approach to musical problems of aesthetic analysis, description, values, theories; including both Western and non-Western considerations. Recommended for students in all specializations of music. Mr. Schwadron

*†188A-188Z. **The Master Composer.** Four hours weekly, including one laboratory hour. A survey of the works of an outstanding composer in Western art music, considered within the context of his age. **188A.** Josquin; **188B.** Palestrina; **188C.** Monteverdi; **188D.** Purcell; **188E.** A. Scarlatti; **188F.** Vivaldi; **188G.** Handel; **188H.** Haydn; **188J.** Mozart; **188K.** Schubert; **188L.** Schumann; **188M.** Berlioz; **188N.** Chopin; **188P.** Brahms; **188Q.** Wagner; **188R.** Verdi; **188S.** Mahler; **188T.** Debussy; **188U.** Schoenberg; **188V.** Stravinsky; **188W.** Bartok; **188X.** Copland, **188Y.** Webern; **188Z.** Ives. The Staff

*†189. **The Symphony.** Four hours weekly, including one laboratory hour. A survey of symphonic literature from Haydn through the 20th Century with special emphasis upon the current symphonic programs of the Los Angeles Philharmonic Orchestra and other performing groups in the Los Angeles area.

Proseminars

190A-190B. Proseminar in Ethnomusicology. Three hours weekly. Prerequisites: courses 140A-140B-140C. Mr. Nketia

193. Proseminar in Music Education. (½ course) Two hours weekly. Prerequisites: courses 17A-17B-17C. This course is prerequisite to all courses in the music education specialization. A historical and philosophical introduction to the field. Mr. Schwadron

195. Field Studies in Music Education. (½ course) Four hours weekly, including two laboratory hours. Prerequisite: course 193. Discussion and observation of current practices. Miss Hooper

199. Special Studies in Music. Prerequisite: senior standing, consent of the instructor and adviser, and a 3.0 grade-point average. Individual studies in Music resulting in a research project. May be repeated to a maximum of eight units. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

NAVAL SCIENCE

(Department Office, 123 Men's Gymnasium)

George I. Thompson, M.A., M.S., *Captain, U.S. Navy, Professor of Naval Science (Chairman of the Department).*
George A. Carlson, B.S.E.E., M.B.A., *Major, U.S. Marine Corps, Assistant Professor of Naval Science.*
Dale E. Baugh, M.S., *Lieutenant, U.S. Navy, Assistant Professor of Naval Science.*

In June 1938, by action of the Secretary of the Navy and the Regents of the University of California, a Naval Reserve Officers' Training Corps (NROTC) was established on the Los Angeles campus. The primary objective of the NROTC is to provide an education at civil institutions which will qualify selected students for regular or reserve commissions in the U.S. Navy or Marine Corps as elected by the student.

The Department of Naval Science offers several programs:

1. Naval ROTC College Program: This is a four-year, non-scholarship program open to physically qualified men and women between the ages of 17 and 21. Freshmen, and sophomores in a five-year baccalaureate program, are the most likely candidates for this program. Students receive a $100 per month stipend in their junior and senior years and complete one summer training cruise after their third year. Upon graduation, the student will be commissioned as Ensign, U.S. Naval Reserve or Second Lieutenant, U.S. Marine Corps Reserve. A three year active duty obligation is incurred. Application should be made in the summer or early in the fall quarter. Scholarships may be offered to highly qualified College Program students.

2. NROTC Two-Year Program: This program is open to men and women who will be entering their junior year of undergraduate study. Applications are sought from UCLA students as well as incoming junior college transfers. After a six-week summer training period at the Naval Science Institute, students enroll in the NROTC Unit as juniors, with the same obligations and privileges as in the College Program described above. U.S. citizenship is required and the age limit is 27 years at the time of graduation. Applicants should contact the Department of Naval Science no later than April 1st of their sophomore year of study.

3. Two-Year Scholarships: This program is open to academically and physically qualified students in their second year of undergraduate study, who have had some background in college physics and calculus. As with the Two-Year Program described above, candidates will attend a summer Naval Science Institute before their junior year. They will receive full tuition, fees, book expense and $100 per month during their last two years. Upon graduation, they will receive Regular Navy commissions and enter nuclear power training or other Navy fields as Ensigns. Applications should be made by April 1st, usually in the sophomore year.

4. NROTC Scholarship Program: This is a nationwide competition open to physically qualified men and women between the ages of 17 and 21. U.S. citizenship is required. High school seniors and students enrolled in the NROTC College Program are eligible to apply. Successful applicants receive $100 per month for four years, plus full payment for tuition, fees, and book expenses. Three summer training cruises are required. Upon graduation, the student receives a commission in the Regular Navy or Marine Corps, with a four year active duty obligation. December 1st is the application deadline for Fall 81 admissions.

Naval Science courses may be taken as free elective courses and applied toward the total course requirements of the student's major department. It is important to contact the Naval Science Department and the cognizant college or department to determine the number of free elective courses for which Naval Science courses may be substituted.

For further information on program requirements, etc., contact the Professor of Naval Science, 123 Men's Gymnasium.

Freshman Year

1A. Introduction to Naval Science. (¼ course) An introduction to the structure of the Department of the Navy and its legal framework. Relationships in the Department of Defense. Components of the Naval Service. Shipboard organization. The Staff

1B. Naval Ship Systems I. An introduction to the principles of ship hull and superstructure design. The concepts of ship structural integrity, stability and buoyancy are examined in detail. Basic thermodynamic principles, inherent in ship power generation(s) propulsion and salt water distillation systems are analyzed. Mr. Baugh

Sophomore Year

20A. Seapower and Maritime Affairs. (½ course) A conceptual study of seapower, emphasizing the historical development of naval and commercial power. Seapower is examined in relation to economic, political and cultural strengths, focusing on current abilities of specific nations to utilize the oceans to attain national objectives. Mr. Carlson

20B. Naval Ship Systems II. A study of naval weapons systems with emphasis on target designation and acquisition, methods of solving fire control problem and target detection systems. Analysis of transfer and feedback functions inherent in weapon systems. Infra-red, radar and sonar principles. Mr. Baugh

Junior Year

101A. Navigation I. A study of principles of piloting, rules of the road, shiphandling and basic concepts of multiple ship formations in ocean transit. Course includes in depth discussion of problems associated with high seas and inland water, applying to small craft and supertankers alike.

101B. Navigation II. Prerequisites: course 101A or consent of instructor. A continuation of Navigation I to include a detailed study of electronic and celestial navigation employed in the determination of a ship's position at sea. The course includes spherical trigonometry, mathematical analysis, sextant sights and the use of navigational aids.

***103. Evolution of Warfare.** A study of the evolution of warfare including historical and comparative consideration of the influence that leadership, political, economic, and sociological and technological development factors have had on warfare, and the influence they will continue to exert in the age of limited warfare. Mr. Carlson

*Courses to be taken by candidates for commissions in the Marine Corps or Marine Corps Reserve in lieu of courses 101A, 101B, 102B and 102C.

Senior Year

102B. Naval Leadership Management I. An examination of both current and classical leadership and management theories and their application to the military environment. Various aspects of the leadership process are examined in detail including interpersonal communication, counseling theory, moral and professional ethics, conflict resolution, and management of change. The unique leadership problems created by racism, sexism, alcoholism, and drug abuse are also discussed. Mr. Meyers

102C. Naval Leadership and Management II. Prerequisite: course 102B. A continuation of Naval Science 102B which examines current leadership and management utilized by the U.S. Navy. Areas covered include human resources management, personnel management, material management, and performance and career evaluation. Mr. Meyers (W)

***103. Evolution of Warfare.** A study of the evolution of warfare including historical and compara-

NOTE: For key to symbols, see pages 65 and 66

tive consideration of the influence that leadership, political, economic, and sociological and technological development factors have had on warfare, and the influence they will continue to exert in the age of limited warfare. Mr. Carlson

*104. **Amphibious Operations.** A study of the art of amphibious operations including the historical development of techniques used to project military power from sea to land. The evolution of amphibious doctrine and techniques is examined through study of the U.S. landings during World War II, the Korean Conflict and the Vietnam War. Mr. Carlson

*Courses to be taken by candidates for commissions in the Marine Corps or Marine Corps Reserve in lieu of courses 101A, 101B, 102B and 102C.

NEAR EASTERN LANGUAGES AND CULTURES

(Department Office, 376 Kinsey Hall)

Amin Banani, Ph.D., *Professor of Persian and History.*
Arnold Band, Ph.D., *Professor of Hebrew.*
Andras Bodrogligeti, Ph.D., *Professor of Turkic and Iranian (Chairman of the Department).*
Ismail Poonawala, Ph.D., *Professor of Arabic.*
Avedis K. Sanjian, Ph.D., *Professor of Armenian.*
Hanns-Peter Schmidt, Ph.D., *Professor of Indo-Iranian.*
Stanislav Segert, Ph.D., *Professor of Biblical Studies and Northwest Semitics.*
Wolf Leslau, Docteur-ès-Lettres, *Emeritus Professor of Hebrew and Semitic Linguistics.*
Moshe Perlmann, Ph.D., *Emeritus Professor of Arabic.*
Claude-France Audebert, Ph.D., *Associate Professor of Arabic.*
Elizabeth Carter, Ph.D., *Associate Professor of Near Eastern Archaeology.*
John Callender, Ph.D., *Associate Professor of Egyptology.*
Thomas Penchoen, Ph.D., *Associate Professor of Berber.*
Yona Sabar, Ph.D., *Associate Professor of Hebrew.*
Lev Hakak, Ph.D., *Assistant Professor of Hebrew.*
Deborah Lipstadt, Ph.D., *Assistant Professor of Jewish Studies.*
Steven West, Ph.D., *Assistant Professor of Turkish.*

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Shimeon Brisman, *Lecturer in Hebrew.*
Jay D. Frierman, M.A., *Lecturer in Near Eastern Archaeology.*
David L. Lieber, D.H.L., *Lecturer in Hebrew.*
Stanford Shaw, Ph.D., *Professor of History.*

Bachelor of Arts Degree

Department Programs. The department offers the Bachelor of Arts degree in four fields: (1) Ancient Near Eastern Civilizations, (2) Arabic, (3) Hebrew, and (4) Jewish Studies. In each of these fields the student must meet the prerequisites and take the courses prescribed for majors. Each student is assigned an adviser who will assist the student in devising a plan of study developed around his interests.

There are four options for a major in Ancient Near Eastern Civilizations: (1) Mesopotamia, (2) Egypt, (3) Syria-Palestine, and (4) Biblical Studies. The prerequisites for options 1 and 2 (Mesopotamia and Egypt) are German 1 and 2; the prerequisites for options 3 and 4 (Syria-Palestine and Biblical Studies) are Greek 1 and 2, Hebrew 1A-1B-1C, and Hebrew 102A-102B-102C. Majors in all four fields will be expected to continue their study of German or Greek beyond the prerequisite levels. Also, majors in all four options are required to take 14 quarter courses selected in consultation with the program adviser.

Majors selecting options 1, 2 and 3 are required to take four language courses as follows: option 1 (Mesopotamia), Semitics 140A-140B, 141, 142; option 2 (Egypt), Ancient Near East 120A-120B-120C, 121A; option 3 (Syria-Palestine), Semitics 130, and three quarters of Hebrew 120. The remaining 10 courses for all three options are to be selected from the following list of courses: three literature courses from Ancient Near East 150A-150B-150C, Jewish Studies 150A; three courses in history and religion from Ancient Near East 130, 170, 171, 172, History 104, 193D, 191A, 105A,B, 203; Iranian 169, 170; three courses in archaeology and art from Ancient Near East 160A-160B, 161A-161B-161C, 162, Art 102; and one course in research methodology (such as Anthropology 175 or Linguistics 120) to be taken preferably in another department with the consent of the adviser.

Majors selecting option 4 (Biblical Studies) in Ancient Near Eastern Civilizations are required to take 14 quarter courses as follows: Three quarters of Hebrew 120; Ancient Near East 150C, 162, 170; English 108B; Greek 130; Jewish studies 150A; History 138A; and Semitics 130. The remaining three courses may be selected from the following: Ancient Near East 130, 150A-150B, 160A-160B, 171, 172; Art 102, 105A; Classics 166B; Greek 200C; History 104, 193D, 105A, B Iranian 169, 170.

For a major in Arabic the prerequisites are Arabic 1A-1B-1C, 150A-150B. The student is required to take 14 quarter courses as follows: Arabic 102A-102B-102C, 103A-103B-103C, 130A-130B-130C; three courses of Arabic 111A-111B-111C or 140A-140B-140C; and History 106A, B.

For a major in Hebrew the prerequisites are Hebrew 1A-1B-1C, 102A-102B-102C, Jewish 150A-150B or their equivalents. The student is required to take 16 quarter courses distributed as follows: Hebrew 103A-103B-103C; three quarters of Hebrew 120; two courses from Hebrew 130, 135; two courses from Hebrew 140, 160; both Hebrew 190A and 190B; two additional courses in Hebrew or Aramaic to be approved by the adviser; and two quarter courses from History 192A, B, 191A, B.

For a major in Jewish Studies the prerequisites are Hebrew 1A-1B-1C, History 138A-138B or their equivalents. The student is required to take 16 quarter courses including: Hebrew 102A-102B-102C, 103A-103B-103C, Jewish Studies 150A-150B, Jewish Studies 151A-151B, 199 (undergraduate thesis), and five other upper division courses. At least two of the five must be courses in the areas of Hebrew, Jewish History, or Yiddish. The remaining three may be chosen either from those areas or from courses with Jewish content given in other departments and approved by the Jewish Studies adviser.

In addition to courses offered at UCLA a number of courses in Jewish studies offered at the University of Judaism are accepted by UCLA for concurrent enrollment credit. Additionally, an agreement between UCLA and the University of Judaism establishes a Joint Undergraduate Program of concurrent enrollment leading to an award of two degrees: Bachelor of Arts in Jewish Studies by the University of Judaism and Bachelor of Arts or Bachelor of Science by UCLA. A list of University of Judaism courses accepted for concurrent enrollment at UCLA as well as general information concerning the Joint Program are available from the office of Admissions of the University of Judaism and the Honors Program Office of UCLA's College of Letters and Science.

Ancient Near East

(Akkadian, Aramaic, Phoenician, and Ugaritic are listed under Semitics.)

Upper Division Courses

*2**120A-120B-120C. Elementary Ancient Egyptian.** Lecture, three hours; laboratory, two hours. Prerequisite: consent of the instructor. Grammar and texts. Mr. Callender

*2**121A-121B-121C. Intermediate Ancient Egyptian.** Three hours. Prerequisites: courses 120A-120B-120C. Readings in Ancient Egyptian literature. Mr. Callender

*3**123A-123B. Coptic.** Three hours. Prerequisite: consent of the instructor. An introduction to Coptic grammar and reading of Coptic texts. The quarters this course is offered vary from year to year. Check with department. Mr. Callender

*3**124. Middle Egyptian Technical Literature.** Prerequisite: course 121C. Reading of Middle Egyptian Technical literature in hieroglyphic transcription. Included are medical, veterinary, mathematical and astronomical texts. Mr. Callender

*3**130. Ancient Egyptian Religion.** Lecture, three hours. An introductory survey of various Ancient Egyptian religious beliefs and practices, their origin and development. Included will be discussions of religio-political institutions such as divine kingship and pious foundations. Mr. Callender

*5**140A-140B. Elementary Sumerian.** Lecture, three hours. Prerequisite: Semitics 140A-140B. Elementary grammar and reading of royal inscriptions, letters and administrative texts from the Ur III period. The Staff

*2**145. Sumerian Literary Texts.** Lecture, three hours. Prerequisites: courses 140A and 140B or consent of instructor. Reading and interpretation of selected Sumerian literary texts. The Staff

*2**150A-*2**150B-*4**150C. Survey of Ancient Near Eastern Literatures in English.** Lecture, three hours. Courses 150A and 150B and 150C may be taken independently for credit. 150A: Mesopotamia; 160B: Egypt; 150C: Syria and Palestine, Asia Minor, Persia. Mr. Buccellati, Mr. Callender, Mr. Segert

*3**160A-*7**160B. Introduction to Near Eastern Archaeology.** Lecture, three hours. Terminology, geography, principles, strategy of research, bibliography and a general survey of Near Eastern archaeology. Ms. Carter, Mr. Frierman

*3**161A-161B-161C. Archaeology of Mesopotamia.** Prerequisite: consent of the instructor. Survey of the main archaeological periods in Mesopotamia with special emphasis on late prehistoric and early historical periods and with reference to neighboring cultural areas. May be taken independently for credit. Ms. Carter

162. Archaeology of Palestine. Lecture, three hours. A survey of the archaeology of Palestine and the Sinai Peninsula from the Paleolithic to the destruction of Jerusalem in 586 B.C. with emphasis on the geographic setting and relationships to the other cultures of the Near East. Mr. Frierman

*3**163A-163B. Archaeology of Iran.** (Formerly numbered 163.) Lecture three hours. A lecture course designed to introduce students to Iranian archaeology from prehistoric through Achaemenid times. 163A will focus on the pre and protohistoric phases of Iranian Archaelolgy. 163B will cover the Archaeology of Elam, the Iron Age and the Achaemenid Empire. Ms. Carter

164A-164B-*6164C. The Archaeology of the Historic Periods in Mesopotamia. Prerequisite: History 140A-140B. Ancient Near East 161A-161C or consent of the instructor. Survey of the main archaeological periods in Mesopotamia with special emphasis on the historic periods and with reference to neighboring cultural areas. May be taken independently for credit.

*4**170. Introduction to Biblical Studies.** Lecture, two hours. The Bible (Old and New Testaments) as a book. Canon, text and versions. Linguistic, literary, historical and religious approaches to Bible study. Survey of history of interpretation from antiquity to the present. Knowledge of original languages not required. Mr. Segert

*4**171. Old Testament: Hebrew and Septuagint Texts.** Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C and Greek 1, 2, or consent of the instructor. Study of the Hebrew original and of the Greek version of the Old Testament books. Mr. Segert

*4**172. Semitic Background of the New Testament.** Lecture, two hours. Prerequisites: Hebrew 102A-102B-102C, Semitics 130, Greek 1 and 2, or consent of the instructor. Study of the Semitic elements in the Greek New Testament: Traditions transmitted in Aramaic, relations to the Old Testament and to the Post-Biblical Literature, and Palestinian Judaism. Mr. Segert

199. Special Studies in the Ancient Near East. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Related Courses in Other Departments

Art 101A. Egyptian Art and Archaeology.

210. Egyptian Art.

History 117. History of Ancient Egypt.

124C. Religions of the Ancient Near East.

140A-140B. History of Ancient Mesopotamia and Syria.

240J. Topics in History.

Arabic

Lower Division Courses

*12**1A-1B-1C. Elementary Arabic.** Lecture, four hours; laboratory, two hours. Basic structure. Miss Audebert

*12**102A-102B-102C. Intermediate Arabic.** Four hours. Prerequisites: courses 1A-1B-1C or consent of the instructor. Readings in both classical and modern Arabic, composition, conversation. Miss Audebert

*12**103A-103B-103C. Advanced Arabic.** Four hours. Prerequisites: courses 102A-102B-102C or consent of the instructor. Review of grammar, continued reading of literary works. Composition, conversation and a weekly lecture in Arabic. Mr. Poonawala

*12**111A-111B-111C. Spoken Arabic.** Lecture, three hours; laboratory, three hours. Prerequisites: courses 102A-102B-102C. Introduction to one Arabic dialect with some comparison of the other dialects. May be repeated for credit with consent of instructor. The Staff

*5**113A-113B-113C. Spoken Iraqi Arabic.** Three hours. Prerequisite: courses 102A-102B-102C. Introduction to the contemporary Arabic dialect of Iraq. Phonology, morphology and syntax will be presented with emphasis on oral practice. The Staff

*1,*12**114A-114B-114C. Spoken Moroccan Arabic.** Lecture, three hours; laboratory, one hour. Introduction to the Spoken Arabic dialect of Morocco. Phonology, morphology and syntax will be presented. Emphasis will be on developing oral skills. Mr. Penchoen

*5**130A-130B-130C. Classical Arabic Texts.** Lecture, three hours. Prerequisites: courses 102A-102B-102C. Reading and interpretation of texts from classical Arabic literature: Koran, historiography, geography and poetry. Mr. Bonebakker

132A-132B-132C. Philosophical Texts. Three hours. Prerequisites: courses 102A-102B-102C or consent of the instructor. A study of excerpts from the major works of medieval Arab philosophy. The Staff

*5**140A-140B-140C. Modern Arabic Texts.** Lecture, three hours. Prerequisites: courses 102A-102B-102C. Readings and interpretation of modern Arabic texts. Miss Audebert

*2**141. Modern Arabic Literature.** Prerequisite: course 140 or its equivalent. Readings of selected texts representing the most important modern styles and trends. May be repeated for credit with the consent of the instructor. Miss Audebert

*2**150A-150B. Survey of Arabic Literature in English.** Lecture, three hours. Knowledge of Arabic is not required. Courses 150A and 150B may be taken independently for credit. Mr. Bonebakker

199. Special Studies in Arabic. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Related Courses in Another Department

History 134A-134B. Near and Middle East from 600 A.D.

267A-267B. Seminar in Near Eastern History.

Armenian

*12**101A-101B-101C. Elementary Modern Armenian.** Four hours. Armenian grammar, conversation and exercises. The Staff

*12**102A-102B-102C. Intermediate Modern Armenian.** Four hours. Prerequisites: courses 101A-101B-101C or the equivalent. Reading of selected texts, composition and conversation. The Staff

103A-103B. Advanced Modern Armenian. Three hours. Prerequisites: courses 102A-102B-102C or the equivalent. Readings in advanced modern Armenian texts. Mr. Sanjian

*2**130A-130B. Elementary Classical Armenian.** Three hours. Grammar of the Classical Armenian language and readings of selected texts. Mr. Sanjian

*2**131A-*6131B. Intermediate Classical Armenian.** Three hours. Prerequisites: courses 130A-130B or the equivalent. Reading of selected texts. Mr. Sanjian

*7**132A-*8132B. Advanced Classical Armenian.** Three hours. Prerequisites: courses 131A-131B or the equivalent. Readings in advanced Classical Armenian texts. Mr. Sanjian

*5**150A-150B. Survey of Armenian Literature in English.** Three hours. Knowledge of Armenian is not required. Courses 150A and 150B may be taken independently for credit. Mr. Sanjian

*5**160A-160B. Armenian Literature of the 19th and 20th Centuries.** Three hours. Prerequisites: courses 102A-102B-102C or the equivalent. Reading of texts and discussion of various genres of modern Armenian literature, within the context of the Armenian Cultural Renaissance. Mr. Sanjian

*8**170 Soviet Armenian Literature.** Lecture three hours. Prerequisites: courses 102A-102B-102C or the equivalent. The course deals with various aspects of Armenian literature developed in Soviet Armenia during the years 1920 to the present time. It covers such genres as poetry, the novel and drama, and concentrates on the works of the most prominent authors in each of these literary fields. The Staff

199. Special Studies in Armenian Language and Literature. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Related Courses in Other Departments

History 131A-131B-131C. Armenian History.

132. The Caucasus since 1801.

207. Armenian Intellectual History.

228. Methods in Armenian Oral History.

230S. Advanced Historiography: Armenian.

240. Topics in History: Armenia and the Caucasus.

286A-286B. Seminar in Armenian History.

Indo-European Studies M150. Introduction to Indo-European Linguistics.

Berber

Upper Division Courses

*12,*1**101A-101B-101C. Elementary Berber.** Lecture, three hours; laboratory, two hours. Development of oral proficiency and analysis of basic grammatical structure. Mr. Penchoen

*12,*1**102A-102B-102C. Advanced Berber.** Prerequisites: courses 101A-101B-101C or consent of the instructor. Advanced study of Berber. Regional and stylistic variants in folk literature. Mr. Penchoen

*12,*1**120A-120B-120C. Introduction to Berber Literature.** Three hours. Prerequisites: courses 102A-102B-102C or consent of the instructor. The development of Berber literary forms: systematic analysis of texts and a study of Berber writing systems. Mr. Penchoen

*1**130. The Berbers.** Examination of the main features of Berber societies and cultures with particular attention being given to social structures and institutions on the one hand, and to customs, values and beliefs on the other. The course will present a broad framework within which the study of particular aspects of Berber cultures may be fruitfully pursued. Mr. Penchoen

*1**199. Special Studies in Berber Languages. (½ to 2 courses)** Prerequisite: consent of the instructor. Study based on the requirements of the individual student. Mr. Penchoen

Related Courses in Other Departments

History 133A-133B. History of North Africa from the Muslim Conquest.

Linguistics 225M. Linguistic Structures: Berber.

Caucasian Languages

*1**111A-111B-111C. Elementary Georgian.** Three hours. Prerequisite: consent of the instructor. Script, grammar, simple reading in this main Caucasian language.

*1**199. Special Studies in Caucasian Languages. (½ to 2 courses)** Prerequisite: consent of the instructor. The Staff

Hebrew

Lower Division Courses

*12**1A-1B-1C. Elementary Hebrew.** Lecture, three hours; laboratory, two hours. Structural principles of grammar. Students who have previous knowledge of reading and some vocabulary are advised to take courses 10A-10B-10C. Students with credit for 10A will not receive credit for Hebrew 1A. Students with credit for 10B will not receive credit for 1B or 1C. The Staff

*12**10A-10B-10C. Accelerated Elementary Hebrew.** Open to students who wish to cover the equivalent of two years college Hebrew in one academic year; for students who have previously studied the rudiments of Hebrew. Students with credit for Hebrew 1A will not receive credit for 10A. Students with credit for 1B and/or 1C will not receive credit for 10B. The Staff

Upper Division Courses

*12**102A-102B. Intermediate Hebrew.** Lecture five hours. Prerequisites: courses 1A-1B-1C or the equivalent. Amplification of grammar; reading of vocalized texts from modern, Biblical, and Medieval/Rabbinic literature. Section I for students with strong grammatical background. Section II for students with strong conversational background. The two sections should be equal in both language skills by the end of the Winter Quarter. Mr. Sabar

*12**103A-103B-103C. Advanced Hebrew.** Five hours. Prerequisites: courses 102A-102B-102C or the equivalent. Reading of unvocalized texts, primarily modern literature. Mr. Hakak

*12**120. Biblical Texts.** Three hours. Prerequisites: courses 102A-102B-102C or the equivalent. Translations and analysis of Old Testament texts with special attention given to texts of primary literary and historical importance. May be repeated for credit. Mr. Lieber

130. Rabbinic Texts. Lecture, three hours. Prerequisites: courses 103A-103B-103C or consent of the instructor. Readings in Mishnah, Talmud, and/or Midrash. May be repeated for credit. Mr. Davidson

135. Medieval Hebrew Texts. Lecture, three hours. Prerequisites: Hebrew 103A-103B-103C or consent of instructor. Readings in Medieval Hebrew Prose and Poetry. May be repeated for credit up to four times. Mr. Davidson

*5**140. Modern Hebrew Poetry and Prose.** Lecture, three hours. Prerequisites: 103A, 103B, 103C, and consent of the instructor. A study of the major Hebrew writers of the past one hundred years: prose-Mendele, Ahad Ha'am, Agnon, Yizhar; poe-

NOTE: For key to symbols, see pages 65 and 66

try-Bialik, Tchernichovsky, Greenberg, Shlonsky, Alterman, Amihai. May be repeated for credit. Mr. Hakak

*8160. **The Hebrew Essay.** Three hours. Prerequisites: courses 103A-103B-103C or consent of the instructor. The Hebrew essay from its rise in Europe in the late eighteenth century to the contemporary Israeli essay; the literary, political, philosophical, and scholarly essay will be studied. May be repeated for credit. Mr. Hakak

*5190A-190B. **Survey of Hebrew Grammar.** Three hours. Prerequisites: courses 102A-102B-102C or consent of the instructor. Descriptive and comparative study of the Hebrew phonology and morphology. Mr. Sabar

199. Special Studies in Hebrew. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Related Courses in Another Department

History 137A-137B. Jewish Intellectual History.

138A-138B. Jewish History.

Iranian

Lower Division Courses

10A-10B-10C. Persian Conversation. (½ course each) Three hours. Prerequisite: consent of the instructor. Systematic and structured conversation Persian. The Staff

Upper Division Courses

*12101A-101B-101C. **Elementary Persian.** Lecture, four hours; laboratory, two hours. The Staff

*12102A-102B-102C. **Intermediate Persian.** Lecture, three hours; laboratory, three hours. Prerequisites: courses 101A-101B-101C or the equivalent. The Staff

*12103A-103B-103C. **Advanced Persian.** Lecture, three hours. Prerequisites: 102A-102B-102C or the equivalent. Mr. Banani

*5140. **Contemporary Persian Belle Lettres.** Three hours. Prerequisites: courses 103A-103B-103C or equivalent and consent of the instructor. A study of the major Persian poets and prose writers of the twentieth century; prose Jamalzadeh, Hedayat, Chubuk, Al Ahmad, Sa'edi, Golestan; poetry Nima, Shamlu, Farrokhzad, Akhavan. Mr. Banani

*5141. **Contemporary Persian Analytical Prose.** Three hours. Prerequisites: courses 102A-102B-102C or equivalent and consent of the instructor. A study of selected modern Persian analytical and expository prose texts with emphasis on social sciences, literary criticism and history. Mr. Banani

150A-150B. Survey of Persian Literature in English. Three hours. Knowledge of Persian not required. Courses 150A and 150B may be taken independently for credit. Mr. Banani

*1169. **Civilization of Pre-Islamic Iran.** (Formerly Indo-European Studies 169.) A survey of Iranian culture from the beginnings through the Sasanian period. Mr. Schmidt

*1170. **Religion in Ancient Iran.** Lecture, four hours. History of religion in Iran from the beginnings to the Mohammedan conquest; Indo-Iranian background, Zoroastrianism, Manichaeism, Mazdakism. Mr. Schmidt

*2190A-190B. **Introduction to Modern Iranian Studies.** Three hours. Prerequisites: Persian 101A-101B-101C or their equivalent. Survey of the Iranian languages. Comparative and historical grammar. Mr. Bodrogligeti

199. Special Studies in Iranian. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Related Courses in Other Departments

History 130A-130B-130C. Islamic Iran.

Oriental Languages 160. Elementary Sanskrit.

161. Intermediate Sanskrit.

162. Advanced Sanskrit.

Indo-European Studies 210. Indo-European Linguistics: Advanced Course.

260A-260B. Seminar in Indo-European Mythology.

280A-280B. Seminar in Indo-European Linguistics.

Linguistics 225U. Persian Phonology and Syntax.

226V. Persian Syntax. Prerequisite: course 225U.

Music 71K. Music of Persia.

Music 171K. Music of Persia.

Islamics

*5110. **Introduction to Islam.** (Formerly Arabic 210.) Lecture, three hours. The course will treat the genesis of Islam, its doctrines and practices with readings from the Gur'an; forms of Islam: tensions and schism; reform and modernism. Mr. Poonawaia

Related Courses in Another Department

History 135. Introduction to Islamic Culture.

136. Islamic Institutions and Political Ideas.

209A-209B. The Modern Middle East.

Jewish Studies

Upper Division Courses

110. Social, Cultural and Religious Institutions of the Jews. This course will examine aspects of Jewish culture that are not treated in literature or history courses. The character and development of subjects such as the following will be considered: Jewish communal institutions; trades and occupations; contact with non-Jews; family institutions; educational institutions; folk beliefs and attitudes. The Staff

130. Modern Jewish National Movements. Lecture, three hours. Study of the evolution of modern Jewish national movements with particular emphasis on the history of Zionism and Diaspora Nationalism. Covers the period up to 1948. Ms. Lipstadt

*3140A-140B. **American Jewish History.** Lecture, three hours. An examination of the social and cultural history of the American Jewish community from its inception to the present, with emphasis upon the integration of successive immigrants and the development of institutions. 140A covers from 1654 to 1914; 140B covers from 1914 to the present. Ms. Lipstadt

*6141. **Modern Anti-Semitism.** Lecture, three hours. An examination of modern antisemitism from the 18th century to the present; a comparison of modern racist idiologies with pre-modern theories; case studies, e.g. The Dreyfus affair, the Beiliss Trail, the Holocaust; Jewish reactions to these phenomena. Ms. Lipstadt

*3142. **The History and Institutions of the State of Israel.** Lecture, three hours. A study of the social and cultural development of the State of Israel from its pre-state institutional structures to the present with emphasis upon major trends, personalities, and ideologies, and the state's position in the wider framework of modern Jewish history. Ms. Lipstadt

*2150A-150B. **Hebrew Literature in English.** Lecture, three hours. 150A and 150B may be taken independently for credit. 150A: Biblical and Apocryphal literature. 150B: Rabbinic and Medieval literature. Mr. Band, Mr. Davidson

*2151A-*2151B. **Modern Jewish Literature in English.** Lecture, three hours. Jewish Studies 151A-Diaspora literature, Jewish Studies 151B-Israeli literature. Both courses may be taken independently for credit. Mr. Band

190. Undergraduate Seminar in Jewish Studies. This course will examine a single topic in depth with the object of encouraging and guiding students' research in the area of Jewish Studies. Literary, cultural and historical subjects will be taken up in successive years, including: midrash; messianic; medieval communal institutions; relations of Jews to non-Jews in the late middle ages. The Staff

M191A-191B. Survey of Jewish History. A survey of social, political and religious developments. 191A: From biblical imes to the end of the Middle Ages. 191B: From the end of the Middle Ages to the present. Mr. Funkenstein

199. Special Studies (Jewish Studies). (½ to 2 courses) Prerequisite: Jewish Studies majors only. The Staff

Near Eastern Languages

Upper Division Course

198. Special Studies in Near Eastern Languages. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Semitics

Upper Division Courses

*12101A-101B-101C. **Elementary Amharic (Modern Ethiopic).** Lecture, three hours. Elements of Amharic, and national language of Ethiopia; grammar and reading of texts. The Staff

102A-102B-102C. Advanced Amharic (Modern Ethiopic). Lecture, three hours. Prerequisites: courses 101A-101B-101C or consent of the instructor. The Staff

110. Neo-Aramaic. Lecture, three hours. Grammar and reading of selected texts (folktales, homilies, songs) in the modern Aramaic dialects of the Jews and Christians of Kurdistan. Mr. Sabar

*5130. **Biblical Aramaic.** Lecture, three hours. Prerequisites: Hebrew 102A-102B-102C or consent of the instructor. Grammar of Biblical Aramaic and reading of texts. Mr. Segert

*5140A-140B. **Elementary Akkadian.** Lecture, three hours. Elementary grammar and reading of texts in standard Babylonian. Mr. Buccellati

*5141. **Advanced Akkadian.** Three hours. Prerequisite: consent of the instructor. Old Babylonian syntax; reading of basic Old Babylonian texts. Mr. Buccellati

142. Akkadian Literary Texts. Three hours. Prerequisite: consent of the instructor. Selected readings from Akkadian myths and epics, with an introduction to the historical tradition of the works and their literary structure. Mr. Buccellati

Turkic Languages

Upper Division Courses

*12101A-101B. **Elementary Turkish.** Five hours. Grammar, reading, conversation and elementary composition drills. Mr. West

*12102A-102B. **Intermediate Turkish.** Five hours. Prerequisites: courses 101A-101B or the equivalent. Continuing study of grammar, reading, conversation and composition drills. Mr. West

*12103A-103B. **Advanced Turkish.** Five hours. Prerequisites: courses 102A-102B or equivalent. Reading in modern literature and social science texts; conversation and composition. Mr. West

*2112A-112B-112C. **Uzbek.** Three hours. Prerequisite: Turkic 102A or consent of the instructor. Grammar, composition drills, reading of literary and folkloric texts. Mr. Bodrogligeti

*5114A-114B-114C. **Bashkir.** Three hours. Prerequisites: Turkic 102A or consent of the instructor. Grammar, reading of literary and folkloric texts. Mr. Bodrogligeti

*[5]160A-160B. Cultural History of the Turks.** Lecture, three hours. Prerequisites: none. A survey of the cultural history of the Turks, as seen primarily through their literature, from their early history to the present. Mr. West

*[2]180A-180B-180C. Introduction to Turkic Studies.** Three hours. Prerequisite: consent of the instructor. Obligatory for everyone in the Turkish program. Introduction to Turkic Philology and an ethnic and cultural survey of the Turkic people. Mr. Bodrogligeti

199. Special Studies in Turkic Languages. (½ to 2 courses) Prerequisite: consent of the instructor. The Staff

Urdu

Upper Division Courses

*[1]101A-101B-101C. Elementary Urdu.** Three hours. Prerequisite: consent of the instructor. Elements of Urdu, the language of Pakistan.

*[1]199. Special Studies in Urdu.** Prerequisite: consent of the instructor.

Related Courses in Another Department

South Asian Languages 171A-171B-171C. Hindi.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

NEUROSCIENCE (INTERDEPARTMENTAL)

The department of Neuroscience does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

NURSING

(Department Office, Louis Factor Building, Center for the Health Sciences)

Mary E. Reres, R.N., M.P.N., Ed.D., *Dean and Professor of Nursing.*
Phyllis A. Putnam, R.N., Ph.D., *Associate Dean and Associate Professor of Nursing.*
Donna F. Ver Steeg, R.M., Ph.D., *Assistan9 Dean for Student Affairs and Assistant Professor of Nursing.*
Lulu Wolf Hassenplug, R.N., M.P.H., Sc.D., *Emeritus Professor of Nursing.*
Dorothy E. Johnson, R.N., M.P.H., *Emeritus Professor of Nursing.*
Harriet C. Moidel, R.N., M.A., *Emeritus Professor of Nursing.*
Agnes A. O'Leary, R.N., M.P.H., *Emeritus Professor of Nursing.*
Charles E. Lewis, M.D., Sc.D., *Professor of Medicine/General Medicine and Health Services Research, Public Health and Nursing.*
Maria W. Seraydarian, Ph.D., *Professor of Nursing.*
Donna L. Vredevoe, Ph.D., *Professor of Nursing.*
Pamela J. Brink, R.N., Ph.D., *Associate Professor of Nursing and Anthropology.*
Beatrice M. Dambacher, R.N., D.N.Sc., *Associate Professor of Nursing.*
Sharon J. Reeder, R.N., Ph.D., *Associate Professor of Nursing.*
Sally A. Thomas, R.N., Ph.D., *Associate Professor of Nursing.*
Gwen M. Van Servellen, R.N., Ph.D., *Associate Professor of Nursing.*
Sumiko Fujiki, R.N., Ph.D., *Visiting Associate Professor of Nursing.*
Luz Porter, R.N., Ph.D., *Visiting Associate Professor of Nursing.*
Arleen B. Canfield, R.N., Ed.D., *Assistant Professor of Nursing.*
Betty L. Chang, R.N., D.N.Sc., *Assistant Professor of Nursing.*
Barbara H. Davis, R.N., Ed.D., *Assistant Professor of Nursing.*
Maryalice Jordan-Marsh, R.N., Ph.D., *Assistant Professor of Nursing.*
Jean A. Kerr, R.N., Ph.D., *Assistant Professor of Nursing.*
Constance W. McAdams, R.N., Ph.D., *Assistant Professor of Nursing.*
Nancy L. Anderson, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Cecily L. Betz, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Christine S. Breu, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Randy Caine, R.N., M.S., *Assistant Clinical Professor of Nursing.*
Anayis Derdiarian, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Roxana Dowen, R.N., M.S., *Assistant Clinical Professor of Nursing.*
Maire L. Friel, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Roberta Gerds, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Joy Graves, R.N., M.S., *Assistant Clinical Professor of Nursing.*
Willi Hayenga, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Joleen M. Heath, R.N., M.S., *Assistant Clinical Professor of Nursing.*
Marla Horn, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Jackline C. Knable, R.N., M.S., *Assistant Clinical Professor of Nursing.*
Ellen M. Meier, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Jo Ellen Murata, R.N., M.P.H., *Assistant Clinical Professor of Nursing.*
Agnes F. Padernal, R.N., M.A., M.Ed., *Assistant Clinical Professor of Nursing.*
Christine Petze, R.N., M.N., *Assistant Clinical Professor of Nursing.*
Laurel Skilling, R.N., M.S., *Assistant Clinical Professor of Nursing.*
Carolyn F. Troupe, R.N., M.A., *Assistant Clinical Professor of Nursing.*
Janice L. Betz, R.N., M.N., *Lecturer in Nursing.*
Charles K. Ferguson, Ed.D., *Lecturer in Nursing.*
Sande J. Fritz, R.N., M.N., *Lecturer in Nursing.*
Susan Griffith, R.N., M.S., *Lecturer in Nursing.*
Evelyn K. Guilbert, R.N., M.S., *Lecturer in Nursing.*
Carmella Heiberger, R.N., M.A., *Lecturer in Nursing.*
Pamela J. Malloy, R.N., M.N., *Lecturer in Nursing.*
Lynn Messenger, R.N., M.N., *Lecturer in Nursing.*
Joan Riehl, R.N., Phd., *Lecturer in Nursing.*
Esther F. Seeley, R.N., M.N., *Lecturer in Nursing.*
Jill Shapira, R.N., M.N., *Lecturer in Nursing.*
Sharon L. Valente, R.N., M.N., *Lecturer in Nursing.*
Shirley H. Wallace, R.N., Ph.D., *Lecturer in Nursing.*

The School of Nursing accepts students of junior or higher standing and offers curricula leading to the degrees of Bachelor of Science and Master of Nursing.

Preparation for the Major

Completion of 21 courses (84 quarter units) of college work including the courses listed under the Prenursing Curriculum in the College of Letters and Science.

The Major

At least 25 courses (100 quarter units) of required upper division nursing courses and elective courses designed to prepare university students for professional nursing responsibilities in the care of the patient and his family.

Upper Division Courses

101. Introduction to Art and Science of Nursing. (2 courses) Lecture, four hours, discussion two hours; laboratory, 12 hours, auto-tutorial laboratory, variable; seminars, variable. An introduction to nursing theory and practice. The content will include the following modules: nursing process, pharmacology, interpersonal and technical skills. Methodology will include laboratory, lectures, discussion, seminars, autotutorial laboratory and clinical application. Ms. Hayenga

104A. Behavior of Man in Health and Illness. Lecture, four hours. An examination of the health-illness continuum from the framework of social and biological sciences. Content includes role theory, developmental theory, transcultural communication theory and other theories relevant to nursing practice. Ms. Graves

104B. Behavior of Man in Health and Illness. Lecture, four hours. Prerequisite: course 104A. An examination of the health-illness continuum from the framework of illness as a stressor and the possible responses to such stress. Content includes anxiety, pain, cognitive disturbances, loss and other responses relevant to nursing practice. Ms. Graves

104C. Behavior of Man in Health and Illness. Lecture, four hours. Prerequisites: courses 104A and 104B. Continuation of the examination of the health-illness continuum from the framework of illness as a stressor and the possible responses to such stress. Content includes anxiety, pain, cognitive disturbances, loss and other responses relevant to nursing practice. Ms. Graves

109. Communication in Health Care. Lecture, two hours; laboratory, six hours. Study of basic communication and group process theory and its application to practice. Laboratory experience emphasizes development of each individual's ability to communicate effectively in a diad and in a small group. Ms. Fujiki

120A. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical concepts related to the nursing care of the child and his family. Ms. Betz

120B. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical concepts of reproduction to the nursing care of the family. Ms. Gerds

120C. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical content related to the nursing care of the patient undergoing medical interventions. Ms. Padernal

120D. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of the theoretical content related to the patient undergoing surgical intervention. Ms. Horn

120E. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of mental health content related to the nursing care of individuals, groups or communities. Ms. Kerr

120F. Clinical Nursing. Five weeks. Lecture, four hours; laboratory, 24 hours. Prerequisites: courses 101, 109 and Physiology 105N. Clinical application of nursing theory in community situations: acute care, convalescent and ambulatory. Theoretical content will include pathophysiology, pharmacology and treatment modalities. Application of community health concepts to nursing care in public health agencies. Ms. Wallace

M158. Health in Culture and Society. (Same as Anthropology M158.) Prerequisite: upper division standing. An examination of the theories and methods of medical anthropology in relation to cross-cultural health systems, role networks, attitude and belief systems of the participants. Emphasis will be placed upon interaction networks in health care systems. Ms. Brink

184. Evolution and Dynamics of the Nursing Profession. Lecture, four hours. A study of the evolution of nursing focusing on historical, ethical, moral, legal, and institutional ramifications of nursing practice. In addition, consideration will be

NOTE: For key to symbols, see pages 65 and 66

given to the rights, obligations, societal, and institutional expectations of the professional nurse.
Ms. Ver Steeg

188. Seminar in Physiology. (½ course) Discussion, two hours. Prerequisite: Physiology 105N or equivalent. Student presentation of selected topics in physiology based on recent monographs, review articles and original research papers. Topics selected each quarter designed to amplify and extend information presented in lectures in physiology 105N. May be repeated for credit.
Ms. Seraydarian

189. Human Sexuality. Lecture, three hours; discussion, one hour. Prerequisite: consent of instructor. Lectures, discussions and case presentations considering human sexuality, its joys and pleasures, pitfalls and problems. An interdisciplinary approach encompassing anatomic, physiologic, psychologic and social aspects of heterosexual and homosexual relationships; including development of gender identity, intercourse, pregnancy, abortion, contraception and venereal disease.
Ms. Reeder

190A. Advanced Clinical Nursing. (1½ courses) Lecture, two hours; laboratory, 20 hours. Prerequisites: successful completion of courses 101, 104 series and 120 series. Beginning concentration in a clinical area of students choice.
Ms. Caine and the Staff

190B. Advanced Clinical Nursing. (1½ courses) Lecture, two hours; laboratory, 20 hours. Prerequisites: successful completion of courses 101, 104 series, 120 series and 190A. Beginning concentration in a clinical area of students choice.
Ms. Caine and the Staff

193. Introduction to Research. Lecture, four hours. An introduction to planning a research project based upon a simple question. Includes rules for definition of terms, alternative methods of writing purposes, selecting a sample, choosing a data collection instrument, planning for data analysis, protection of human rights, reading research reports, and writing a research proposal.
Ms. Brink, Ms. Thomas

195. Principles of Change and Change Agent Roles. Lecture, two hours; discussion, two hours. Theories and methods of change and their application to nursing. Principles of leadership, teaching-learning, health delivery systems, organization of nursing care and patient advocacy.
Ms. Heiberger

196. Health Care Problems of Minority Group Members. Prerequisite: Sociology 1A or 101. Description and discussion of the special health care problems which members of minority groups face. These problems may be related to socio-economic status as well as ethnic background and subcultural differences. The Staff

199. Special Studies in Nursing. (½ to 4 courses) Prerequisites: senior standing and/or consent of the instructor. Individual study of a problem in the field of nursing. May be repeated for credit but only one quarter course (4 quarter units) may be applied toward the Bachelor of Science degree. Grading basis (passed/not passed or letter grade) is to be determined by the student and instructor.
The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

ORIENTAL LANGUAGES

(Department Office, 222 Royce Hall)

Hartmut E. F. Scharfe, Ph.D., *Professor of Indic Studies (Chairman of the Department).*
Ensho Ashikaga, M. Litt., Giko, *Emeritus Professor of Oriental Languages.*
Kenneth K. S. Chen, Ph.D., *Emeritus Professor of Oriental Languages.*
Kan Lao, B.A., Academician, *Emeritus Professor of Oriental Languages.*
Richard C. Rudolph, Ph.D., *Emeritus Professor of Oriental Languages.*
Ben Befu, Ph.D., *Associate Professor of Oriental Languages.*
Hung-hsiang Chou, Ph.D., *Associate Professor of Oriental Languages.*
Robert C. Epp, Ph.D., *Associate Professor of Oriental Languages.*
Herbert E. Plutschow, Ph.D., *Associate Professor of Oriental Languages.*
Shirleen S. Wong, Ph.D., *Associate Professor of Oriental Languages.*
William R. LaFleur, Ph.D., *Assistant Professor of Oriental Languages.*
E. Perry Link, Jr., Ph.D., *Assistant Professor of Oriental Languages.*
Richard E. Strassberg, Ph.D., *Assistant Professor of Oriental Languages.*

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Y. C. Chu, M.A., *Lecturer in Chinese.*
Kuo-yi Pao (Unensecen), M.A., M.S., *Lecturer in Oriental Languages.*
Hanns-Peter Schmidt, Ph.D., *Professor of Indo-Iranian Studies.*
George Takahashi, M.A., *Lecturer in Japanese.*

Department undergraduate advisers: Kuo-yi Pao, Chinese; Robert Epp, Japanese.

Advising: At the beginning of each academic year all majors in the department should see the adviser concerning their program of studies. New students entering the Department should consult immediately with the appropriate adviser concerning their proposed study program.

Aim: The Department of Oriental Languages aims to provide the general undergraduate student with an exposure to the cultural heritage of China and Japan. This is accomplished through courses in civilization, religion, archaeology and literature in translation. For those undergraduates who wish to major in Oriental Languages, the Department offers a program leading to the B.A. degree in Chinese or Japanese, in which the emphasis is on a more specialized knowledge of the language and literature of the area of major interest. In the language program, the emphasis proceeds from an acquaintance with the spoken language (either Chinese or Japanese) to a reading knowledge of the modern and classical forms of the language.

No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition.

Preparation for the Major

For the major in Chinese, courses 1A-1B-1C, 11A-11B-11C, 13A-13B, and 40A or 46; also History 9B and 9C. For the major in Japanese, courses 9A-9B-9C, 19A-19B-19C, and 40B; also History 9B and 9C. Recommended for Chinese majors: course 13C. Recommended for both majors: Anthropology 5C, 22 and English 2.

The Major

Required for the major in Chinese: Seven upper division language courses which must include:

a. Two courses to be chosen from 121A, 121B, 121C, 122A, 122B, 124A, 124B, 124C and 126.

b. Two courses to be chosen from 113A, 113B, 151, 152A, 152B, 163A, 163B and 163C.

Also: 140A or 140B or 140C; one course chosen from 170A, 170B, 173 or 183; 199 (at least 1/2 course), Art 114B and either History 182A, 182B, 182C or 183.

Required for the major in Japanese: Seven upper division courses chosen from 119A, 119B, 129, 134A, 134B, 137, 139, 142A, 142B, 153A, 153B, 175, 179A, 179B. The seven courses must include 119B, 129 and 134A or 134B or 153A or 153B. Also, 141A or 141B, one course chosen from 174, 184; 199 (at least 1/2 course), Art 114C and either History 187A, 187B or 187C.

Recommended for both majors: English 100A, 100B, 100C, and additional courses in history. Those planning to undertake graduate study are urged to include in their undergraduate program three courses in classical Chinese or Japanese at the upper division level. Those planning to undertake advanced graduate study are urged to include five quarters of French or German.

Lower Division Courses

1A-1B-1C. Elementary Modern Chinese. Lecture, five hours. Not open to students with previous training. An introduction to standard spoken Chinese and Chinese characters with emphasis on conversation. Mr. Chu, Mr. Pao

3A-3B-3C. Basic Cantonese. An introduction to a major dialect of the Chinese language. Basic grammar and culture of the dialect will be given with emphasis on conversational patterns. Basic Chinese characters will also be introduced. The Staff

9A-9B-9C. Elementary Modern Japanese. Lecture, five hours. Not open to students with previous training. Introduction to modern Japanese with attention to conversation, grammar and the written forms. Conversation drill to be based on material covered in class. Mr. Takahashi

10A-10B-10C. Intermediate Spoken Chinese. (½ course each) Prerequisite: course 1C. To be taken in conjunction with second year Chinese to enhance command of spoken Mandarin at the intermediate level and above. Permission of the department required. Mr. Link, Mr. Pao, Mr. Strassberg

11A-11B-11C. Intermediate Modern Chinese. Lecture, three hours; laboratory, one hour. A continuation of 1A-1B-1C, with balanced instruction in reading, writing and conversation. Mr. Pao

13A-13B-13C. Introduction to Classical Chinese. Lecture, three hours; reading or discussion, one hour. Prerequisite: course 1C or consent of the instructor. Study of the development of the writing system and introduction to literary Chinese.
Mr. Chou

15A-15B-15C. Intermediate Spoken Japanese. (½ course each) Prerequisite: course 9C. Enrollment limited; permission of the Department required; priority to be given Japanese majors. The Staff

19A-19B-19C. Intermediate Modern Japanese. Lecture, three hours; laboratory, one hour. A continuation of 9A-9B-9C. Readings in modern Japanese with emphasis on comprehension and structural analysis. Mr. Epp, Mr. Takahashi

40A. Chinese Civilization. No knowledge of Chinese required. A survey of the development of the outstanding aspects of Chinese culture from prehistoric to modern times. Mr. Chou

40B. Japanese Civilization. No knowledge of Japanese required. A survey of the development of Japanese culture and its relationship to the Asiatic mainland. The Staff

42. The Tea Ceremony—An Introduction to the History of Japanese Culture in Theory and Practice. Lecture, three hours; demonstration. This course will treat the history and culture of Japan as revealed through study and practice of the Tea Ceremony. It will invite investigation of a number of topics: Buddhism, Aesthetics, Calligraphy, painting, architecture, gardens, ceramics and politics.
Mr. Plutschow

46. Chinese Civilization in Modern Times. Prerequisite: no knowledge of Chinese required. A survey of developments in Chinese culture from the late 19th century to the present. Mr. Link

Upper Division Courses

113A-113B. Intermediate Classical Chinese. Lecture, three hours; reading or discussion, one hour. Prerequisite: courses 13A-13B. Further readings in the classics. Ms. Wong

115A-115B-115C. Advanced Spoken Japanese. (½ course each) Prerequisite: course 19C. Enrollment limited; permission of the Department required; priority to be given Japanese majors. The Staff

119A-119B. Advanced Modern Japanese. Lecture, three hours; laboratory, one hour. A continuation of 19A-19B-19C. Emphasis on comprehension,

grammar and proficiency in reading, composition and conversation in modern Japanese.
Mr. Takahashi

121A-121B-121C. Advanced Modern Chinese. Lecture, four hours. Prerequisite: course 11C. Readings in modern prose and newspaper style. Mr. Chu

122A-122B. Readings in Modern Chinese Literature. Lecture, three hours. Prerequisite: course 121B or consent of the instructor. Readings and discussion of masterpieces of modern Chinese literature. (A) poetry and prose; (B) drama and fiction. Mr. Link

124A-124B-124C. Readings in Modern Expository Chinese. Lecture, three hours. Prerequisite: course 121B or consent of the instructor. Readings in the social sciences, including Chinese Communist materials: (A) Nationalist Chinese materials including the May 4th Movement; (B) Political and military materials of Communist China; (C) Economic and educational materials of Communist China. Mr. Chu

126. Post-1949 Chinese Literature. Prerequisites: course 121B or consent of the instructor. Reading and discussion of selected works in contemporary poetry, drama and fiction with emphasis on the People's Republic of China. Mr. Link

129. Introduction to Classical Japanese. Lecture, three hours. Prerequisite: course 119B or consent of the instructor. Introduction to literary Japanese, with readings and discussions in the prose and poetry of the Heian Period. Mr. Befu

***13134A. Introduction to Kawabata Yasunari.** Lecture, three hours. Prerequisite: course 19C. Reading and analysis of the Nobel Laureate's short stories with particular emphasis on their emotional structure. Mr. Epp

***13134B. Introduction to Mushakoji Saneatsu.** Lecture, three hours. Prerequisite: course 19C. Reading and discussion of Mushakoji's prose, fiction and poetry. Mr. Epp

135. Buddhist Themes in Asian Literature. No knowledge of Asian languages required. A survey of selected works of Buddhist literature of India, China and Japan. Includes canonical works like the *Lotus Sutra* and non-canonical works of poetry, prose and drama containing Buddhist themes.
Mr. LaFleur

137. Introduction to Kambun and Other Literary Styles. Lecture, three hours. Prerequisite: course 119B or consent of the instructor. Introduction to Kambun, the Japanese literary rendering of Classical Chinese, and Sorobun, the epistolary style.
Mr. Befu, Mr. Plutschow

139. Introduction to Buddhist Texts. Lecture, three hours. Prerequisite: course 13C, 121A or 119A. Studies in Buddhist terminology. The Staff

140A-140B-140C. Chinese Literature in Translation. No knowledge of Chinese required. Lectures and collateral reading of representative works in English translation. (A) Poetry from earliest times to the 19th century; (B) Drama and fiction from the 13th century to the end of the Ch'ing period; (C) 20th-century poetry, drama, fiction.
Mr. Link, Ms. Wong

141A-141B. Japanese Literature in Translation. No knowledge of Japanese required. A survey of Japanese literature from the beginning to modern times, emphasizing Chinese, Buddhist and Western influences: (A) Beginning to 1600; (B) 1600 to modern times. Mr. Plutschow

***13142A. Readings in the Japanese Family System.** Lecture, three hours. Prerequisite: course 119B. Analysis and discussion of articles describing and criticizing the family-system mindset, how this mindset permeates interpersonal relationships, and the way the system has functioned in the past.
Mr. Epp

***13142B. Human Problems in the Modernization of Japan.** Lecture, three hours. Prerequisite: course 119B. Analysis and discussion of articles that deal with the definition of modernization, with its relation to traditional values and self awareness, and with the role of the intellectual. Mr. Epp

145. Readings in Modern Expository Japanese. Prerequisite: course 119A. Readings in contemporary affairs, including politics, economics, trade and social issues. The reading material will be taken from current Japanese newspapers and journals.
Mr. Plutschow

151. Readings in Traditional Chinese Fiction. Prerequisite: course 113A. Readings range from the *pien-wen* stories to the novels of the Ming and Ch'ing periods. Mr. Strassberg

***13152A-152B. Readings in Classical Chinese Poetry.** Lecture, three hours. Prerequisite: course 113A or consent of the instructor. Discussion and collateral reading of representative works selected on the basis of such critical concerns as thematic patterns, image clusters, genres, and the characteristics of major poets. Ms. Wong

***13153A. Kawabata's Contemporaries.** Lecture, three hours. Prerequisite: course 119A, or 134A or 134B. Readings in the fiction and poetry of Ibuse Masuji, Maruyama Kaoru, Ozaki Kazuo, Tsuboi Sakae and Yokomitsu Riichi. Mr. Epp

***13153B. Introduction to Shiga Naoya.** Lecture, three hours. Prerequisite: course 119A, or 134A or 134B. Reading and discussion of Shiga's short stories with special emphasis on his I-novel technique.
Mr. Epp

154A-154B. Mongolian. Lecture, three hours; laboratory, one hour. To be offered when requested by a sufficient number of students. Mr. Pao

160. Elementary Sanskrit. Introduction to script and grammar, with reading exercises and attention to the significance of Sanskrit for the understanding of other Indo-European languages. Mr. Scharfe

161. Intermediate Sanskrit. Prerequisite: course 160 or equivalent. Advanced aspects of grammar and the reading of literary texts. Mr. Scharfe

162. Advanced Sanskrit. Prerequisite: course 161 or equivalent. In this course the entire Bhagavadgita or a comparable amount of other Sanskrit literature is read. Mr. Scharfe

163A-163B-163C. Readings in Chinese Literary Texts. Lecture, three hours. Prerequisite: course 113B. (A and B) Literary texts. (C) Historical texts.
The Staff

165. Readings in Sanskrit. Prerequisite: course 162 or equivalent. Extensive reading in such texts as best serve the students' needs. Mr. Scharfe

167. Introduction to Indic Philosophy. A survey of the main trends in Indian philosophy from ancient to modern times. Mr. Scharfe

170A-170B. Archaeology in Early and Modern China.

(A) Introduction to Chinese archaeology: early Chinese study of their own past, types of artifacts, antiquarianism, and the beginnings of scientific archaeology in China before 1949.

(B) Archaeology in the People's Republic of China: survey of major excavations of sites of all periods carried out under the intensive archaeological program of the PRC, and the interpretation of the archaeological findings. Mr. Chou

172. Introduction to Buddhism. No language requirement. Not open to students who received credit for 172A or 172B. Life of the Buddha and fundamental doctrines of Buddhism; Buddhist writings; the monastic order; early sects. The popular cult. The rise and development of Mahayana Buddhism: writings and doctrines. The Tantric doctrines and the end of Indian Buddhism.
The Staff

173. Chinese Buddhism. No language requirement. The introduction and development of Buddhism in China, interaction between Buddhism and Chinese culture, rise of the Chinese schools of Buddhism such as Pure Land and Zen, contributions to Chinese culture. The Staff

174. Japanese Buddhism. No language requirement. The development of Buddhism in Japan and its influence on Japanese culture with emphasis on the arts. Mr. LaFleur

175. The Structure of the Japanese Language. Lecture, three hours; reading or discussion, one hour. Prerequisite: consent of the instructor. Phonology, morphology and syntax of Japanese.
Mr. Takahashi

179A. Readings in Medieval Japanese Literature. Lecture, three hours. Prerequisite: course 129 or consent of the instructor. Readings and discussion in the prose, poetry and drama up till 1600.
Mr. Befu

179B. Readings in Edo Literature. Lecture, three hours. Prerequisite: course 129. Readings and discussion in the prose, poetry and drama from 1600 to 1868. Mr. Befu

183. Introduction to Chinese Thought. No language requirement. A general survey of indigenous Chinese thought from the Chou period to circa 1800, covers Confucianism, Taoism, Motzu, the Legalists, the study of the Classics, pseudo-scientific thoughts, the rise of the skeptical tradition, the penetration of Buddhism, the development of neo-Taoism and neo-Confucianism. Buddhism will be touched on only in the general context of Chinese thought. The Staff

184. Introduction to Japanese Thought. No language requirement. A general survey of Japanese thought from the earliest records to the Tokugawa period with primary emphasis on indigenous elements. Deals with the religious ideas that shaped Shinto, the encounter of Shinto with Buddhism, the formation of "syntheses" such as Ryobu Shinto, the rise of pessimistic attitudes (mappo), philosophies of history and the growth of Japanese self-consciousness, the rise of new Shinto sects in the medieval period, Confucianism in the Tokugawa period and the "National Learning" movement. Mr. LaFleur

188. Chinese Etymology and Calligraphy. Prerequisite: one year of Classical Chinese or consent of the instructor. Covering (1) the development of the Chinese writing system starting from the "Pottery Inscriptions" 6,000 years ago down to the modern "Simplified Forms", and the studies of the Six Scripts principles which were used to form Chinese characters, and (2) the aesthetic training of calligraphic art and its appreciation, with focus on the ways of recognizing and interpreting the "Cursive Style" a common form of handwriting.
Mr. Chou

189. Chinese Brush Painting. A combination studio-lecture course surveying the aesthetics and techniques of Chinese literati painting. Emphasis will be on realizing the philosophical ideals of critical treatises through mastery of the traditional materials and elements of landscape.
Mr. Strassberg

199. Special Studies in Oriental Languages. (½ to 1 course) Prerequisite: senior standing in the Department or advanced reading knowledge of Chinese or Japanese, and consent of the instructor. Required of incoming senior majors transferred from other institutions. Special individual study. May be repeated only once with consent of the instructor.
The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

Related Courses in Other Departments

Anthropology 103C. Peoples of Asia: Japan.

139. Comparative Minority Relations.

206. Culture and Personality of Japan: Selected Topics.

269W. Asian-Americans: Personality and Identity.

NOTE: For key to symbols, see pages 65 and 66

211. Selected Topics in Comparative Minority Relations.

Art 114A. The Early Art of India.

114B. Chinese Art.

114C. Japanese Art.

115A. Advanced Indian Art.

115B. Advanced Chinese Art.

115C. Advanced Japanese Art.

260. Asian Art.

English 100A. Introduction to Poetry.

140. Criticism.

201. Approaches to Literary Criticism.

Geography 186. Contemporary China.

286. Eastern Asia.

History 182A-182B-182C. History of China.

186. Diplomatic History of the Far East.

187A-187B-187C. Japanese History.

188A. Early History of India.

200. Advanced Historiography: L. China. M. Japan. P. History of Religions.

201. Topics in History: L. China. M. Japan. P. History of Religions.

282A-282B-282C. Seminar in Chinese History.

285A-285B. Seminar in Modern Japanese History.

293A-293B. Seminar in the History of Religions.

Linguistics 103. Introduction to General Phonetics.

120A. Linguistic Analysis: Phonology.

120B. Linguistic Analysis: Grammar.

220. Linguistic Areas.

225. Linguistic Structures.

Music 81. Ethnomusicology. Performance Organization: D. Music of China. G. Music and Dance of Japan. J. Music and Dance of Korea.

141. Survey of Music in Japan.

145. History of Chinese Opera.

146A-146B-146C. Studies in Chinese Instrumental Music.

147A-147B. Music of China.

Political Science 135. International Relations of China.

136. International Relations of Japan.

159. Chinese Government and Politics.

160. Japanese Government and Politics.

250. Seminars in Regional and Area Political Studies: C. Chinese and East Asian Studies. D. Japanese and Western Pacific Studies.

Sociology 134. Comparative Social Institutions of East Asia.

PATHOLOGY

(Department Office, 13-267 Center for the Health Sciences)

The department of Pathology does not offer an undergraduate degree. For detailed information on degrees offered by this department, please consult the Graduate Catalog.

PHARMACOLOGY

(Department Office, 23-278 Center for the Health Sciences)

The department of Pharmacology does not offer an undergraduate degree. For detailed information on degrees offered by this department, please consult the Graduate Catalog.

PHILOSOPHY

(Department Office, 321 Dodd Hall)

Marilyn Adams, Ph.D., *Professor of Philosophy.*
Robert Merrihew Adams, Ph.D., *Professor of Philosophy.*
Rogers Albritton, Ph.D., *Professor of Philosophy.*
Tyler Burge, Ph.D., *Professor of Philosophy.*
Alonzo Church, Ph.D., *Professor of Philosophy and Mathematics in Residence.*
Keith S. Donnellan, Ph.D., *Professor of Philosophy.*
Philippa Foot, M.A., *Professor of Philosophy.*
Montgomery Furth, Ph.D., *Professor of Philosophy.*
Donald Kalish, Ph.D., *Professor of Philosophy.*
David Kaplan, Ph.D., *Professor of Philosophy.*
Herbert Morris, Ph.D., *Professor of Philosophy and Law.*
Robert M. Yost, Ph.D., *Professor of Philosophy.*
Hugh Miller, Ph.D., *Emeritus Professor of Philosophy.*
Wesley Robson, Ph.D., *Emeritus Professor of Philosophy.*
Thomas E. Hill, Jr., Ph.D., *Associate Professor of Philosophy.*
Warren S. Quinn, Ph.D., *Associate Professor of Philosophy.*

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Preparation for the Major

Courses 21, 22, 31, and one other lower division course in Philosophy.

The Major

Twelve upper division or graduate philosophy courses (48 units). Seven of the twelve courses must be distributed among the groups into which the undergraduate and graduate courses are divided, in the following manner: two courses (8 units) in each of three of the groups, and one course (4 units) in the remaining group.

Courses listed under "No Group" may apply toward the major, but not toward a group requirement. A maximum of eight units of course 199 may apply toward the major but not toward a group requirement. No course employed to satisfy the major or preparation requirements may be taken on a P/NP basis.

Upon the recommendation of the Philosophy Department faculty, honors in philosophy will be awarded at graduation to a major whose grade point average in upper division philosophy courses is 3.3 and who has completed two graduate courses (8 units) in philosophy with an average grade of 3.5.

Students intending to do graduate work in Philosophy should consult with the graduate adviser as well as with the undergraduate adviser.

Lower Division Courses

All lower division courses are introductory and without prerequisites except as otherwise stated.

1. The Beginnings of Western Philosophy. Lecture, three hours; discussion section, one hour. The views of Plato, Aristotle, and other thinkers, from before Socrates to St. Augustine, on such topics as: the nature of the physical universe, the nature of knowledge, the concept of God, soul and body, the foundations of morality, the Greek and Christian ideas of love. Mr. Albritton, Mr. Furth

2. Introduction to the Philosophy of Religion. Lecture, three hours; discussion section, one hour. An introductory study of such topics as the nature and grounds of religious belief, the relation between religion and ethics, the nature and existence of God, the problem of evil, and what can be learned from religious experience. Mr. Adams, Mrs. Adams

3. Personal and Social Ideals. Lecture, three hours; discussion section, one hour. A study of various conceptions of human perfection and social utopias. Readings will be chosen from such authors as Freud, Thomas More, Marx, B.F. Skinner and Sartre. Mr. Hill

4. Philosophical Analysis of Contemporary Moral Issues. Lecture, three hours; discussion section, one hour. A critical study of principles and arguments advanced in discussion of current moral issues. Possible topics: revolutionary violence, rules of warfare, sexual morality, the right of privacy, punishment, nuclear warfare and deterrence, abortion and mercykilling, experimentation with human subjects, rights of women, the drug culture. Mr. Quinn

5A. Philosophy in Literature. Lecture, three hours; discussion section, one hour. A philosophical inquiry into such themes as freedom, responsibility, guilt, love, self-knowledge and self-deception, death and the meaning of life, by examination of great literary works in the Western tradition. Mr. Morris

5B. Recurring Philosophical Themes in Black Literature. Lecture, three hours; discussion section, one hour. Analysis of some main themes in Afro-American political writings; for example, assimilation, cultural nationalism, and separatism in the writings of Booker T. Washington, Frederick Douglass, W.E.B. du Bois, and others.

6. Historical Introduction to Moral and Political Philosophy. Lecture, three hours; discussion section, one hour. A study of some classic works in moral and political philosophy. Questions that may be discussed include: What is justice? Why be moral? Why obey the law? Which form of government is best? How much personal freedom should be allowed in society? Mr. Hill

7. Introduction to the Philosophy of Mind. Lecture, three hours; discussion section, one hour. An introductory study of philosophical issues about the nature of the mind and its relation to the body, including some of the following: materialism, functionalism, behaviorism, determinism and free will, the nature of psychological knowledge. Mr. Burge

8. Introduction to the Philosophy of Science. Lecture, three hours; discussion section, one hour. An introduction to philosophical questions about the nature of science, drawing examples from specific scientific theories and controversies that can be understood without much mathematical or technical background. What role do observation and explanation play in building and evaluating scientific theories? How should we view the relation between science and common sense?

9. Principles of Critical Reasoning. The course concerns the nature of arguments: how to analyze them and assess the soundness of the reasoning they represent. Common fallacies that often occur in arguments will be discussed in light of what counts as a good deductive or inductive inference. Other topics to be discussed include the use of language in argumentation to arouse emotions as contrasted with conveying thoughts, the logic of scientific experiments and hypothesis-testing in general, and some general ideas about probability and its application in making normative decisions, e.g. betting. Mr. Kaplan

10. Virtues and Vices. Lecture, three hours; discussion section, one hour. A study of the traditional theory of the virtues and vices, and an inquiry into its truth. Readings in Aristotle, Aquinas, and contemporary authors; and the discussion of concepts such as courage, wisdom and justice. Should we accept the traditional list of the virtues and vices, or should it be revised? Mrs. Foot

21. Skepticism and Rationality. Lecture, three hours; discussion section, one hour. Can we know anything with certainty? How can we justify any of our beliefs? An introduction to the study of these and related questions, through the works of some great philosophers of the modern period, such as Descartes, Leibniz, Berkeley, or Hume. Mr. Donnellan, Mr. Furth, Mr. Yost

22. Introduction to Ethical Theory. Lecture, three hours; discussion section, one hour. A systematic introduction to ethical theory, including discussion of egoism, utilitarianism, justice, responsibility, the meaning of ethical terms, relativism, etc. Recommended or required for many upper division courses in Group III. Mr. Hill, Mr. Kavka, Mr. Quinn

31. Logic, First Course. Lecture, three hours; discussion section, one hour. Recommended for students who plan to pursue more advanced studies in

logic. The elements of symbolic logic, sentential and quantificational; forms of reasoning and structure of language.
Mr. Burge, Mr. Kalish, Mr. Kaplan

32. Logic, Second Course. Lecture, three hours; discussion section, one hour. Prerequisite: course 31, preferably in the preceding quarter. Symbolic logic: extension of the systematic development of course 31. Quantifiers, identity, definite descriptions.
Mr. Burge, Mr. Kalish, Mr. Kaplan

Upper Division Courses

GROUP I

101A. Plato—Earlier Dialogues. (Formerly numbered M101A.) Lecture, three hours; discussion section, one hour. A study of selected topics in the early and middle dialogues of Plato. Mr. Furth

101B. Plato—Later Dialogues. (Formerly numbered M101B.) Lecture, three hours, discussion section, one hour. Prerequisite: Philosophy 101A. A study of selected topics in the middle and later dialogues of Plato. Mr. Furth, Mr. Quinn

102. Aristotle. Lecture, three hours; discussion section, one hour. A study of selected works of Aristotle. Mr. Furth

104. Topics in Islamic Philosophy. Lecture, three hours; discussion section, one hour. Prerequisite: one course (4 units) in philosophy or consent of the instructor. The development of Muslim philosophy in its great age (from Kindo to Averroes, 850 to 1200), considered in connection with Muslim theology and Mysticism.

105. Medieval Philosophy from Augustine to Maimonides. Lecture, four hours. Prerequisite: one course in philosophy or consent of the instructor. The development of early medieval philosophy within the framework of Judeo-Christian theology and its assimilation and criticism of the Greek philosophical heritage. Focus on the problem of universals, the existence and nature of God, the problem of evil, and the doctrines of the Trinity and atonement. Selected writings from Augustine through Maimonides, read in English translation.
Mrs. Adams

106. Later Medieval Philosophy. Lecture, four hours. Prerequisite: one course in philosophy or consent of the instructor (course 105 is not required). Metaphysics, theory of knowledge, and theology of Aquinas, Duns Scotus, and Ockham, with less full discussion of other authors from the 13th through early 15th centuries. Selected texts read in English translation. Mrs. Adams

107. Topics in Medieval Philosophy. Lecture, four hours. Prerequisite: one course in philosophy; 105 or 106 recommended. The study of the philosophy and theology of some one medieval philosopher such as Augustine, Anselm, Abelard, Aquinas, Scotus, or Ockham; or the study of a single area such as logic or theory of knowledge in several medieval philosophers. Consult the department for topic to be treated in a given quarter. May be repeated for credit with consent of instructor.
Mrs. Adams

109. Descartes. Lecture, four hours. Prerequisites: Philosophy 21 or two courses in philosophy or consent of instructor. A study of the works of Descartes with emphasis on the *Meditations*. Such issues as the problems of scepticism, the foundations of knowledge, the existence of God, the relation between mind and body will be discussed. Enrollment will be limited to 30 students when offered concurrently with 209. Mr. Yost

110. Spinoza. Lecture, three hours; discussion, one hour. Prerequisites: course 21 or consent of the instructor. A study of the philosophy of Spinoza. May be concurrently scheduled with course 210, in which case there will be a weekly discussion meeting for undergraduates only, and fewer readings and shorter papers will be required of undergraduates than off graduates. Enrollment is limited to 30 students when offered concurrently. Mr. Adams

111. Leibniz. Lecture, three hours; discussion section, one hour. Prerequisite: course 21 or consent of the instructor. A study of the philosophy of Leibniz. May be concurrently scheduled with course 211, in which case there will be a weekly discussion meeting for undergraduates only, and fewer readings and shorter papers will be required of undergraduates than of graduates. Enrollment is limited to 30 students when offered concurrently.
Mr. Adams

112. Locke and Berkeley. Lecture, four hours. Prerequisite: one course in philosophy or consent of the instructor. A study of the philosophies of Locke and Berkeley; the emphasis may sometimes vary from one figure to the other. May be offered concurrently with course 212. Mr. Donnellan

114. Hume. Lecture, four hours. Prerequisite: one course in philosophy or consent of the instructor. Selected topics from the metaphysical, epistemological and ethical writings of Hume. May be offered concurrently with course 214, in which case enrollment in course will be limited to 40.
Mr. Donnellan

115. Kant. Lecture, three hours; discussion section, one hour. Prerequisite: course 21 or 22 or consent of the instructor. A study of Kant's views on related topics in theory of knowledge, ethics, and politics.
Mr. Hill

116. Nineteenth Century Philosophy. Lecture, three hours; discussion section, one hour. Prerequisite: one course in philosophy or consent of the instructor. Selected topics in nineteenth century thought.

117. Late 19th and Early 20th Century Philosophy. Lecture, three hours; discussion section, one hour. Prerequisite: one course in philosophy or consent of the instructor. Selected topics in the work of one or more of the following philosophers: Bolzano, Frege, Husserl, Meinong, the early Russell and Wittgenstein. Mr. Burge

GROUP II

125. Introduction to Modern Logic. Lecture, three hours; discussion section, one hour. Open to lower division students with consent of the instructor. A survey of elementary topics in sentential logic, axiomatic foundations of arithmetic, calculus of classes and relations, elementary theory of probability, modal logic. Mr. Kalish

126A. Philosophy of Science. Lecture, three hours; discussion section, one hour. Prerequisite: course 31 or course 125. An analysis of explanation, confirmation, and theory in the sciences.

126B. Philosophy of Science. Lecture, three hours; discussion section, one hour. Prerequisite: course 126A or consent of the instructor. Certain philosophical problems regarding the content of the sciences.

126C. Philosophy of Science: Social Sciences. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor. A discussion of topics in the philosophy of social science; e.g., the methods of the social sciences in relation to the physical sciences; valuebias in social inquiry; concept formation; theory construction; explanation and predication; the nature of social laws.

127A. Philosophy of Language. Lecture, four hours. Prerequisite: course 31 or consent of the instructor. Syntax, semantics, pragmatics. The semantical concept of truth, sense and denotation, synonymy and analyticity, modalities and tenses, indirect discourse, indexical terms, semantical paradoxes. May be repeated for credit with the consent of the instructor.
Mr. Burge, Mr. Church, Mr. Kaplan

127B. Philosophy of Language. Lecture, four hours. Prerequisites: course 32 or consent of the instructor. Course 127A is not a prerequisite for course 127B. Selected topics similar to those considered in course 127A will be discussed but at a more advanced and technical level.
Mr. Church, Mr. Kaplan

128A. Philosophy of Mathematics. Lecture, four hours. Prerequisite: course 31, 32, and preferably one additional course in logic. The philosophy of mathematics; logicism of Frege and Russell, arithmetic reduced to logic; ramified type theory and impredicative definition (Russell, Poincare, the early Weyl). Mr. Church

128B. Philosophy of Mathematics. Lecture, four hours. Prerequisite: course 128A or consent of the instructor. Intuitionism of Brouwer, Heyting, and the later Weyl; proof theory of Hilbert.
Mr. Church

129. Philosophy of Psychology. Lecture, three hours; discussion section, one hour. Prerequisite: one 4-unit course in Psychology and one course in Philosophy. Selected philosophical issues arising from psychological theories. Relevance of computer simulation to accounts of thinking and meaning; relations between semantical theory and learning theory; psychological aspects of the theory of syntax; behaviorism, functionalism and alternatives; physiology and psychology. Mr. Burge

133. Logic, Third Course. Lecture, four hours. Prerequisite: course 32. Topics in logic and semantics; formal theories, definitions, alternative theories of descriptions. Mr. Kalish, Mr. Kaplan

134. Introduction to Set Theory. Lecture, four hours. Prerequisite: course 32, or upper division standing in mathematics and consent of the instructor. Introduction to axiomatic set theory; sets, natural numbers, relations, functions, cardinality, infinity. Mr. Kalish

135. Introduction to Metamathematics. Lecture, four hours. Prerequisite: course 32; 134 or the equivalent. Models, satisfaction, truth, definability; logical truth and logical consequence; consistency and completeness.
Mr. Church, Mr. Kalish, Mr. Kaplan

136. Modal Logic. Lecture, four hours. Prerequisite: course 32; 133 or 135 recommended. The logic of necessity and possibility. Various formulations of the syntax and semantics of such logics. The problem of interpreting quantified modal logic, deontic, and other non-extensional logics. Mr. Kaplan

GROUP III

150. Society and Morals. Lecture, three hours; discussion section, one hour. Prerequisite: course 22 or consent of the instructor. A critical study of principles and arguments advanced in discussion of current moral and social issues. The topics will be similar to those of course 4, but familiarity with some basic philosophical concepts and methods will be presupposed. May be repeated for credit with the consent of the instructor. Mr. Hill

151A-151B. History of Ethics. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or the consent of the instructor. Course 151A is not a prerequisite for 151B.
151A. Selected classics in earlier ethical theories.
151B. Selected classics in later ethical theories.
Mr. Hill, Mr. Quinn

153A. Topics in Ethical Theory: Normative Ethics. Lecture, four hours. Prerequisite: course 22 or consent of instructor. A study of selected topics in normative ethical theory. Topics may include various conceptions of the criteria of right action, human rights, virtues and vices, principles of culpability and praise-worthiness. Mr. Hill

153B. Topics in Ethical Theory: Metaethics. Lecture, three hours. Prerequisite: course 22 or consent of the instructor. A study of selected problems in metaethics ethical theory. Topics may include the analysis of moral language and the justification of moral beliefs. Mrs. Foot, Mr. Quinn

154. Moral Issues and the Professions. Lecture, three hours; discussion section, one hour. Prerequisite: consent of the instructor, course 22 recommended but not required. A philosophical examination of specific moral issues, with special attention to problems which arise in medicine, law, engineering, business, and other professions. Critical analysis of principles presupposed in alternative

NOTE: For key to symbols, see pages 65 and 66

answers, and discussions of the relevance of moral theories to the resolution of the problems. Discussion and individual research is stressed. Restricted enrollment: 20. Philosophy 154 cannot be taken in fulfillment of major requirements in Philosophy. Either Philosophy 154 or Philosophy 150 can be taken: credit will not be given for both. The Staff

155. Medical Ethics. An examination of the philosophical issues raised by problems of medical ethics such as abortion, euthanasia, and medical experimentation. Mrs. Foot

156. Topics in Political Philosophy. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor; course 22 is advised. Analysis of some basic concepts in political theory. May be repeated for credit with the consent of the instructor. Mr. Hill

157. History of Political Philosophy. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor; course 22 is advised. Selected classics in the history of political philosophy. Mr. Hill

161. Topics in Aesthetic Theory. Lecture, three hours: discussion section, one hour. Prerequisites: one course in philosophy or consent of the instructor. Philosophical theories about the nature and importance of art and art criticism, aesthetic experience, and aesthetic values. May be repeated for credit with the consent of the instructor. Mr. Quinn

166. Introduction to Legal Philosophy. Prerequisite: one course in philosophy or consent of the instructor. An examination, through the study of recent philosophical writings, of such topics as: the nature of law, the relationship of law and morals, legal reasoning, punishment, and the obligation to obey the law. Mr. Morris, Mr. Wasserstrom

GROUP IV

170. Philosophy of Mind. Lecture, three hours; discussion section, one hour. Prerequisite: two relevant courses in philosophy or consent of the instructor. An analysis of various problems concerning the nature of mind and mental phenomena, such as the relation between the mind and the body, and our knowledge of other minds. Mr. Donnellan

172. Philosophy of Language. Lecture, three hours; discussion section, one hour. Prerequisite: two relevant courses in philosophy or linguistics, or consent of the instructor. Analysis of the concepts of meaning, reference and truth in natural languages; syntactic and semantic descriptions of natural languages; theory of speech acts. Mr. Donnellan

174. Contemporary Philosophy. Lecture, three hours; discussion section, one hour. Prerequisite: two lower division courses in philosophy or one upper division course in philosophy or one course in logic or consent of the instructor. Analysis of the views of several recent philosophers. Mr. Donnellan

175. Topics in Philosophy of Religion. Lecture, three hours; discussion section, one hour. Prerequisite: course 21 or 22 or consent of the instructor. An intensive investigation of one or two topics or works in the philosophy of religion, such as the attributes of God, arguments for or against the existence of God, or the relation between religion and ethics. Consult the department for topic to be treated in a given quarter. May be repeated for credit with the consent of the instructor. Mr. Adams, Mrs. Adams, Mr. Albritton

177A. Existentialism. Lecture, three hours; discussion section, one hour. Prerequisite: one course in philosophy or consent of the instructor. Analysis of the methods, problems and views of some of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartre, Marcel, and Camus. Possible topics: metaphysical foundations, nature of mind, freedom, problem of the self, other people, ethics, existential psychoanalysis.

177B. Historical Studies in Existentialism. Lecture, three hours; discussion section, one hour. Prerequisite: one course in philosophy or consent of the instructor. A study of the central philosophical texts of one of the following: Kierkegaard, Nietzsche, Heidegger, Jaspers, Sartre, or Camus. The course will focus primarily on explication and interpretation of the texts.

178. Phenomenology. Lecture three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor. Introduction to the phenomenological method of approaching philosophical problems via the works of some of the following: Brentano, Husserl, Heidegger, Scheler, Sartre, Merleau-Ponty, Ricoeur. Topics fall in the areas of ontology, epistemology, and particularly philosophy of mind.

182. Elements of Metaphysics. Lecture, three hours; discussion section, one hour. Prerequisite: course 21 or consent of the instructor. Study of basic metaphysical questions; nature of the physical world, of minds, and of universals; and the answers provided by alternative systems, e.g., phenomenalism; materialism, dualism. Mr. Adams, Mr. Yost

183. Theory of Knowledge. Lecture, four hours. Prerequisite: course 21 or consent of the instructor. An analysis of the concept of empirical knowledge. Mr. Yost

184. Topics in Metaphysics. Lecture, four hours. Prerequisite: course 21 or consent of the instructor. An intensive investigation of one or two topics or works in metaphysics, such as: personal identity, the nature of dispositions, possibility and necessity, universals and particulars, causality. Consult the department for topics to be treated in a given quarter. May be repeated for credit with the consent of the instructor. Mr. Adams, Mr. Albritton, Mr. Donnellan

185. Space and Time. Lecture, three hours; discussion section, one hour. Prerequisite: two courses in philosophy or consent of the instructor. An analysis of philosophical problems concerning the nature of space and time, including traditional puzzles as well as questions raised by modern science.

186. Topics in the Theory of Knowledge. Lecture, four hours. Prerequisite: course 182 or 183 or consent of the instructor. An intensive investigation of one or two selected topics or works in the theory of knowledge, such as: a priori knowledge, the problem of induction, memory, knowledge as justified true belief. Consult the department for topics to be treated in a given quarter. May be repeated for credit with the consent of the instructor. Mr. Albritton, Mr. Yost

187. Philosophy of Action. Lecture, four hours. Prerequisite: two courses in Philosophy or consent of the instructor. A study of various concepts employed in the understanding of human action. Topics may include rational choice, desire, intention, weakness of will, and self-deception. The Staff

189. Major Philosophers of the 20th Century. Prerequisites: Two courses in Philosophy or consent of the instructor. A study of the writings of one major modern philosopher: for example Russell, Moore, Wittgenstein, Carnap, Quine. Mr. Albritton, Mr. Burge

188. Philosophy of Perception. Lecture, four hours. Prerequisite: two courses in philosophy or consent of the instructor. A critical study of the main philosophical theories of perception and the arguments used to establish them. Mr. Yost

NO GROUP

190. Third World Political Thought. Lecture, three hours; discussion section, one hour. The political philosophy of various third world thinkers. The topics chosen may vary from year to year, but typically will be chosen from the following: Franz Fanon, Singhar and Cesaire's "Negritude," W.E.B. du Bois' Pan-Africanism, Che and Mao.

191. Mysticism. Lecture, three hours; discussion section, one hour. Prerequisite: one course in philosophy. A study of writings of mystics, concentrating on the phenomenology of mystical experience, epistemological problems connected with such experiences, and the relevance of such experiences for certain systems of ethics and metaphysics. Mrs. Adams

192. Philosophical Analysis of Issues in Women's Liberation. Lecture, four hours. Prerequisite: one course in Philosophy or consent of instructor. A critical study of concepts and principles which arise in the discussion of women's rights and liberation. Topics may include economic and educational equality, preferential treatment, abortion, sex roles, sexual morality, marriage, love, friendship.

193. Christian Ethical Thought. Lecture, three hours; discussion section, one hour. Reading of selected classic and contemporary authors in the Christian ethical tradition, with philosophical analysis and assessment of their views on morality and the religious life. Mr. Adams

195. 19th and 20th Century Religious Thought. Lecture, three hours; discussion section, one hour. Modern Religious Thought. A philosophical approach to Western religious thought of the last two hundred years, through study of selected works by such authors as Kant, Schleiermacher, Kierkegaard, Buber, Camus, and Tillich. Mr. Adams

196. Undergraduate Seminar in Philosophy. Lecture, three hours; discussion, one hour. Prerequisite: consent of the instructor. Variable Topics; Consult Schedule of Classes or Department Announcements for current topic. May be repeated for credit with the consent of the instructor. The Staff

199. Special Studies. (½ to 2 courses) Prerequisite: consent of the instructor. As many as eight units of this course can be used for the philosophy major, but the course cannot be substituted for a course in one of the four groups on the basis of similarity of subject matter. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

PHYSICS

(Department Office, 3174 Knudsen Hall)

Ernest S. Abers, Ph.D., *Professor of Physics.*
Rubin Braunstein, Ph.D., *Professor of Physics.*
Nina Byers, Ph.D., *Professor of Physics.*
Marvin Chester, Ph.D., *Professor of Physics.*
W. Gilbert Clark, Ph.D., *Professor of Physics.*
John M. Cornwall, Ph.D., *Professor of Physics.*
John Dawson, Ph.D., *Professor of Physics.*
Robert J. Finkelstein, Ph.D., *Professor of Physics.*
A. Theodore Forrester, Ph.D., *Professor of Physics and Engineering.*
Burton Fried, Ph.D., *Professor of Physics.*
Christian Fronsdal, Ph.D., *Professor of Physics.*
Roy P. Haddock, Ph.D., *Professor of Physics.*
Theodore Holstein, Ph.D., *Professor of Physics.*
George J. Igo, Ph.D., *Professor of Physics.*
[17]Charles Kennel, Ph.D., *Professor of Physics.*
[17]Leon Knopoff, Ph.D., *Professor of Physics and Geophysics and Earth and Space Sciences.*
Steven A. Moszkowski, Ph.D., *Professor of Physics.*
Bernard M. K. Nefkens, Ph.D., *Professor of Physics.*
Richard E. Norton, Ph.D., *Professor of Physics.*
Raymond L. Orbach, Ph.D., *Professor of Physics.*
Philip A. Pincus, Ph.D., *Professor of Physics.*
J. Reginald Richardson, Ph.D., *Professor of Physics.*
Isadore Rudnick, Ph.D., *Professor of Physics.*
J. J. Sakurai, Ph.D., *Professor of Physics.*
Robert A. Satten, Ph.D., *Professor of Physics.*
David S. Saxon, Ph.D., *Professor of Physics.*
Peter Schlein, Ph.D., *Professor of Physics.*
Julian Schwinger, Ph.D., *Professor of Physics.*
William E. Slater, Ph.D., *Professor of Physics.*
Donald H. Stork, Ph.D., *Professor of Physics.*

Harold K. Ticho, Ph.D., *Professor of Physics.*
Alfred Y. Wong, Ph.D., *Professor of Physics.*
Chun Wa Wong, Ph.D., *Professor of Physics.*
Eugene Wong, Ph.D., *Professor of Physics.*
Byron T. Wright, Ph.D., *Professor of Physics.*
Alfredo Bãnos, Jr., Dr.Eng., Ph.D., *Emeritus Professor of Physics.*
Hans E. Bommell, Ph.D., *Emeritus Professor of Physics.*
Joseph Kaplan, Ph.D., Sc.D., L.H.D., *Emeritus Professor of Physics.*
Kenneth R. MacKenzie, Ph.D., *Emeritus Professor of Physics.*
Norman A. Watson, Ph.D., *Emeritus Professor of Physics.*
Charles D. Buchanan, Ph.D., *Associate Professor of Physics.*
Paul M. Chaikin, Ph.D., *Associate Professor of Physics.*
Ferdinard V. Coroniti, Ph.D., *Associate Professor of Physics and Astronomy.*
Seth J. Putterman, Ph.D., *Associate Professor of Physics.*
Reiner Stenzel, Ph.D., *Associate Professor of Physics.*
Charles A. Whitten, Jr. Ph.D., *Associate Professor of Physics.*
Claude Bernard, Ph.D., *Assistant Professor of Physics.*
Gary A. Williams, Ph.D., *Assistant Professor of Physics.*

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S. Merton Burkhard, M.S., *Lecturer in Physics.*

Preparation for the Major in Physics

Required: Physics 8A-8E; Chemistry 11A-11B-11BL and 11C required; Chemistry 11CL is recommended but not required; Mathematics 31A-31B, 32A-32C, 33A-33B.

The Major in Physics†

†A mimeographed brochure giving more detailed information than is contained in this bulletin is obtainable from the Office of Undergraduate Affairs, Department of Physics.

The following courses are required: Physics 105A, 105B, 110A, 110B, 112A, 115A, 115B, 131A, three courses from the Physics 180 series; three additional upper division physics lecture courses selected from Physics 108,, 114, 122, 123, 124, 126, 131B and 140. An upper division course in Mathematics may be substituted for Physics 131B *upon approval of an adviser.* A "C" average is required in the above courses. A reading knowledge of Russian, German or French is recommended. This major leads to the Bachelor of Science degree. Junior transfer students should preferably have completed 1) a two year calculus-analytic geometry sequence or equivalent and 2) the calculus based physics course at their previous college, but in no case should less than 3 semesters or 4 quarters of the mathematics and 1 year of the physics sequence be completed before transferring to UCLA. At least C grades in all mathematics and physics courses taken are required.

Students preparing for graduate school should take additional courses in physics and mathematics. Physics 122, 123, 124, 126, 131B, and 140 are recommended.

The Major in General Physics

This major leads to the degree "B.A. in General Physics." It is intended to provide the necessary flexibility for those students who are interested in fields which can benefit from a strong background of knowledge of physics. Those students who intend to continue work in the Ph.D. in physics are advised to work for the B.S. in physics as described under the "Major in Physics." The course requirements for the B.A. in General Physics are as follows: Physics 105A, 110A, 110B, 112A, 115A, 131A, one course from the 180 series, two upper division physics electives (excluding 185, and 199), and five upper division courses in no more than two departments other than physics. A "C" average in the upper division physics courses is required.

Teaching Credentials

Students may earn credentials for teaching physical sciences and other subjects in California elementary and secondary schools. Some majors are more advantageous than others for professional preparation. Completion of the Teacher Credential Program in the Teacher Education Laboratory is required. Consult with the Graduate School of Education (201 Moore Hall) for information.

Lower Division Courses

Physics 1Q, Contemporary Physics, is intended for entering freshmen physics majors, and will normally be taken in the first quarter of residence. There are no course prerequisites. Although it is not a required course or a part of or prerequisite to any general physics sequence of courses, it serves a purpose which general introductory courses do not fulfill adequately, if at all, namely to indicate the nature of current research problems in physics.

Physics 8A-8E form a sequence of courses in general physics for majors in physics. All or part of the sequence is also required or recommended as first choice for major students in: astronomy, atmospheric sciences, chemistry, engineering, geology, mathematics, and certain interdepartmental fields of concentration.

Physics 8AH-8DH is an honors sequence intended for students with an outstanding record in high school science courses and a deep interest in physics. This sequence covers the same material as the Physics 8A-8D sequence but in greater depth.

The Department desires to take into account prior preparation in physics. Students who feel their background would permit acceleration may be exempted from courses 8A-8E, by taking the final examination with a class at the end of any quarter. These will serve as placement examinations. Qualified students are urged to discuss such possibilities with their advisers.

Physics 3A-3B-3C form a one-year sequence of courses in general physics (with laboratory) primarily for students in the biological and health sciences but open to any student who meets the prerequisites. In this sequence only algebra and trigonometry are used in providing a mathematical description of physical phenomena: calculus is not used.

Physics 6A-6B-6C form a one-year sequence of courses in basic physics for students in the biological and health sciences. However, unlike Physics 3A-3B-3C, calculus is used throughout and satisfactory completion of basic calculus courses is a prerequisite for admission to this sequence. Individual departments will, on an individual basis, advise students as to which physics sequence is required for each major. After an interim period, it is expected that all biology and bacteriology majors will be required to complete the physics 6A-6B-6C sequence.

Physics 10 is a one-quarter, non-laboratory course which surveys the whole field of physics. It is designed for the liberal arts student and satisfies in part the College of Letters and Science E requirement in the Physical Sciences for non-physical science majors. Any two or more courses from Physics 10, 3A, 6A, and 8A shall be limited to six units credit.

Lower Division Courses

1Q. Contemporary Physics. (½ course) Prerequisite: a major in physics. A review of current problems in physics with emphasis on those being studied in our research laboratories at UCLA. The significance of the problems and their historical context. (F)

3A. General Physics: Mechanics of Solids and Fluids. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: three years of high school mathematics including trigonometry, or two years of high school mathematics and a one-term college course in mathematics with trigonometry included in the group of courses; or the equivalent courses. Physics 3A is not open for credit to students who have credit for Physics 8A or the equivalent. The fundamentals of classical mechanics: Newton's Laws; conservation of momentum, angular momentum, energy; Kepler's Laws; dynamics of systems of particles; fluid mechanics. (F,W)

3B. General Physics: Heat, Sound and Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 3A or equivalent. Temperature, heat and the laws of thermodynamics. Introduction to wave motion, resonance. Sound and acoustics. Electric and magnetic fields. Electric power. Elements of DC and AC circuits. (W,Sp)

3C. General Physics: Light, Relativity, and Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 3B or equivalent. Light, optical instruments. Introduction to relativity. The electron and the atom. Matter waves. Nuclear and particle physics. (F,Sp)

6A. Physics for Life Science Majors: Mechanics and Wave Motion. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: Mathematics 3A, 3B and 3C or the equivalent. Mathematics 3C may be taken concurrently. (F,W)

6B. Physics for Life Science Majors: Electricity and Magnetism. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: Physics 6A. (W,Sp)

6C. Physics for Life Science Majors: Light and Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisite: course 6B. (F,W)

8A. General Physics: Mechanics of Solids. (Formerly numbered 7A.) Lecture and demonstration, four hours; discussion, one hour. Prerequisites: high school physics or chemistry, preferably both; Mathematics 31A completed and 31B concurrent with Physics 8A; or equivalent courses. (F,W,Sp)

8AH. General Physics: Mechanics of Solids-Honors Sequence. Lecture and demonstration, four hours; discussion, one hour. This course, intended for students with an outstanding record in high school science courses and a deep interest in physics, covers the same material as Physics 8A but in greater depth. Prerequisites: Mathematics 31A (or preferably 31AH) completed and 31B (or preferably 31BH) concurrent with Physics 8AH; or equivalent courses. Enrollment in Physics 8AH rather than 8A is left to the judgment of the student. In case of doubt, consult the instructor scheduled to give the course.

8B. General Physics: Vibration, Wave Motion, Sound, Fluids, Heat, and Kinetic Theory. (Formerly numbered 7C.) Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8A; Mathematics 31B completed and 32A concurrent with Physics 8B; or equivalent courses. (F,W,Sp)

8BH. General Physics: Vibration, Wave Motion, Sound, Fluids, Heat, and Kinetic Theory-Honors Sequence. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. This course covers the same material as 8B but in greater depth. Prerequisites: course 8AH, or course 8A with a grade of A, or the recommendation of the 8A instructor; Mathematics 31B (or preferably 31BH) completed and 32A (or preferably 32AH) concurrent with 8BH; or equivalent courses. (Sp)

8C. General Physics: Electricity and Magnetism. (Formerly numbered 7B.) Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8B; Mathematics 32A completed and 32B concurrent with Physics 8C. (F,W,Sp)

8CH. General Physics: Electricity and Magnetism—Honors Sequence. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8BH, or course 8B with a grade of A, or the recommendation of the 8B instructor; Mathematics 32A (or preferably 32AH) completed and 32B (or preferably 32BH) concurrent with Physics 8CH; or consent of the instructor. (F)

8D. General Physics: Electromagnetic Waves, Light, and Relativity. (Formerly numbered 7D.) Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prere-

NOTE: For key to symbols, see pages 65 and 66

quisites: course 8C; Mathematics 32B completed and 33A concurrent with Physics 8D; or equivalent courses. (F,W,Sp)

8DH. General Physics: Electromagnetic Waves, Light, and Relativity—Honors Sequence. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. This course covers the same material as 8D but in greater depth. Prerequisites: course 8CH, or course 8C with a grade of A, or the recommendation of the 8C instructor; Mathematics 32B (or preferably 32BH) completed and 33A (or preferably 33AH) concurrent with 8DH; or the consent of the instructor. (W)

8E. General Physics: Modern Physics. Lecture and demonstration, three hours; discussion, one hour; laboratory, two hours. Prerequisites: course 8D; Mathematics 33A completed and 33B concurrent with Physics 8E; or equivalent courses. (F,W,Sp)

10. Physics. Lecture and demonstration, three hours; quiz and discussion, one hour. No special mathematical preparation is required beyond that necessary for admission to the University with Freshman standing. This course satisfies in part the College of Letters and Science requirements in the physical sciences for non-physical science majors. Topics will be selected from: Planetary motion, Newton's Laws, gravitation, electricity and magnetism, wave motion, light, sound and heat, relativity, quantum mechanics, atoms, and subatomic particles. As time permits, the development of physical ideas will be placed in their cultural and historical perspective. (F,W,Sp)

11. Modern Physics for Non-Science Majors. Prerequisite: course 10. A sequel to course 10. Lecture and demonstration, three hours; quiz and discussion one hour. Topics will be selected from: the concept of energy, quantum theory, nuclear physics, relativity.

14A-14B. Mechanics: Preparatory Course. Prerequisites: Mathematics 3C or 31A. A two-term introductory course in mechanics satisfying the prerequisite for Physics 6B or Physics 8B. Admission is by consent of instructor only.

Mr. Kinderman

Upper Division Courses

Prerequisite for all upper division courses: Physics 8A 8E; Mathematics 31A-31B, 32A-32B, 33A and (except for Physics 105A and 116) 33B; or consent of the instructor. Students must complete one quarter of upper division physics before enrolling in the 180 laboratory series.

105A. Analytic Mechanics. Newtonian mechanics and conservation laws, gravitational potentials, calculus of variations, Lagrangian and Hamiltonian mechanics, central force motion, linear oscillations.

105B. Analytic Mechanics. Prerequisite: course 105A. Relativity with four-vectors, non-intertial reference frames, dynamics of rigid bodies, coupled oscillators, normal modes of oscillation, vibrating strings, and wave propagation.

108. Optical Physics. Prerequisite: course 110B. Interaction of light with matter; dispersion theory, oscillator strength, line widths, molecular scattering. Coherence theory, Kirchhoff formulation of diffraction theory, crystal optics, optical rotation, electro and magneto optical effects. Additional topics of fundamental or current interest.

110A. Electricity and Magnetism. Prerequisite: course 131A. Electrostatics and magnetostatics.

110B. Electricity and Magnetism. Prerequisite: course 110A. Faraday's law and Maxwell's equations. Propagation of electromagnetic radiation. Multipole radiation and radiation from an accelerated charge. The special theory of relativity.

112A. Thermodynamics. Fundamentals of thermodynamics including the first, second, and third laws. The statistical mechanical point of view and its relation to thermodynamics. Some simple applications of the foregoing.

114. Mechanics of Wave Motion and Sound. Vibrating systems and wave propagation in gases, liquids and solids including elements of hydrodynamics and elasticity. Applications in ultrasonics, low temperature physics, solid state physics, architectural acoustics.

115A. Elementary Quantum Mechanics. Prerequisite: course 131A and 105B (the latter may be taken concurrently). The classical background, basic ideas and methods of quantum mechanics.

115B. Elementary Quantum Mechanics. Prerequisite: course 115A. Development of the methods and concepts of quantum mechanics.

115C. Elementary Quantum Mechanics. Prerequisite: course 115B. Further development in the methods and concepts of quantum mechanics.

116. Electronics. Three hours of lecture and three hours of laboratory. Alternating current circuits, vacuum tube characteristics and parameters, transistor characteristics and parameters, amplifiers, oscillators, non-linear tube and transistor circuits.

M122. Plasma Physics. Engineering 110B or Physics 110A. Senior level introductory course to physics of plasmas and ionized gases and fundamentals of controlled fusion. Particle motion in magnetic fields; fluid behavior, plasma waves; resistivity and transport; equilibrium and stability; kinetic effects. Illustrative laboratory experiments will be discussed.

123. Atomic Structure. (Formerly numbered 113.) Prerequisite: course 115B. The theory of atomic structure. Interaction of radiation with matter.

124. Nuclear Physics. Prerequisite: course 115A. Nuclear charge, mass, radius, spin, and moments; nuclear models; nuclear forces; alpha, beta, and gamma emission.

126. Elementary Particle Physics. Prerequisite: course 115B. Experimental determination of the properties of elementary particle states. Relativistic kinematics and phase space; angular momentum and isotopic spin formalism; elastic and inelastic scattering; invariance principles and conservation laws; strong, electromagnetic, and weak interactions. Survey of important experiments.

131A. Mathematical Methods of Physics. Matrix algebra and eigenvalue problems, vector differential operators and curvilinear coordinates, ordinary and partial differential equations, special functions, Sturm-Liouville Problem, Fourier series and integrals.

131B. Mathematical Methods of Physics. Prerequisite: course 131A. Green's functions and boundary value problems, complex variables and selected topics from: Tensors, Laplace transforms, probability theory, perturbation theory, approximation techniques.

140. Introduction to Solid State Physics. Prerequisite: course 115B or equivalent. Introduction to the basic theoretical concepts of solid state physics with applications. Crystal symmetry; cohesive energy; diffraction of electron, neutron, and electromagnetic waves in a lattice; the reciprocal lattice; phonons and their interactions; free electron theory of metals; energy bands.

***[14]180A. Nuclear Physics Laboratory.**

***[14]180B. Physical Optics and Spectroscopy Laboratory.**

***[14]180C. Solid State Physics Laboratory.**

***[14]180D. Acoustics Laboratory.**

***[14]180E. Plasma Physics Laboratory.**

***[14]180F. Elementary Particle Physics Laboratory.**

***185. Foundations of Physics.** Prerequisite: senior standing in physics or consent of the instructor. The historical development and philosophical sources of classical and modern physics.

199. Special Studies in Physics. (½ to 1 course) May be repeated, but not more than three courses may be applied toward the bachelor's degree.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

PHYSIOLOGY

(Department Office, 53-247 Center for the Health Sciences)

The department of Physiology does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

PLANETARY AND SPACE SCIENCE

(See Geophysics and Space Physics)

POLITICAL SCIENCE

(Department Office 4289 Bunche Hall)

Richard E. Ashcraft, Ph.D., *Professor of Political Science.*
Hans H. Baerwald, Ph.D., *Professor of Political Science.*
Richard D. Baum, Ph.D., *Professor of Political Science.*
Irving Bernstein, Ph.D., *Professor of Political Science.*
John C. Bollens, Ph.D., *Professor of Political Science.*
David T. Cattell, Ph.D., *Professor of Political Science.*
James S. Coleman, Ph.D., *Professor of Political Science.*
[4]Mattei Dogan, Docteur ès Lettres, *Professor of Political Science.*
Ernest A. Engelbert, M.P.A., Ph.D., *Professor of Political Science.*
Leonard Freedman, Ph.D., *Professor of Political Science.*
Robert C. Fried, Ph.D., *Professor of Political Science.*
Edward Gonzalez, Ph.D., *Professor of Political Science.*
Robert Jervis, Ph.D., *Professor of Political Science.*
Malcolm H. Kerr, Ph.D., *Professor of Political Science.*
Roman Kolkowicz, Ph.D., *Professor of Political Science.*
Andrzej Korbonski, Ph.D., *Professor of Political Science (Chairman of the Department).*
Michael F. Lofchie, Ph.D., *Professor of Political Science.*
Dwaine Marvick, Ph.D., *Professor of Political Science.*
Charles R. Nixon, Ph.D., *Professor of Political Science.*
David C. Rapoport, Ph.D., *Professor of Political Science.*
John C. Ries, Ph.D., *Professor of Political Science.*
David O. Sears, Ph.D., *Professor of Political Science and Psychology.*
John R. Sisson, Ph.D., *Professor of Political Science.*
Richard L. Sklar, Ph.D., *Professor of Political Science.*
David O. Wilkinson, Ph.D., *Professor of Political Science.*
David A. Wilson, Ph.D., *Professor of Political Science.*
E. Victor Wolfenstein, Ph.D., *Professor of Political Science.*
Charles E. Young, Ph.D., *Professor of Political Science.*
Winston W. Crouch, Ph.D., *Emeritus Professor of Political Science.*
David G. Farrelly, Ph.D., *Emeritus Professor of Political Science.*
J. A. C. Grant, Ph.D., LL.D., *Emeritus Professor of Political Science.*
Foster H. Sherwood, Ph.D., LL.D., *Emeritus Professor of Political Science.*
H. Arthur Steiner, Ph.D., *Emeritus Professor of Political Science.*
L. Blair Campbell, Ph.D., *Associate Professor of Political Science.*
Robert S. Gerstein, LL.B., Ph.D., *Associate Professor of Political Science.*
Douglas S. Hobbs, Ph.D., *Associate Professor of Political Science.*
Stephen D. Krasner, Ph.D., *Associate Professor of Political Science.*
Karen J. Orren, Ph.D., *Associate Professor of Political Science.*
Susan Kaufman Purcell, Ph.D., *Associate Professor of Political Science.*
Raymond A. Rocco, Ph.D., *Associate Professor of Political Science.*
Duane E. Smith, Ph.D., *Associate Professor of Political Science.*
Leo M. Snowiss, Ph.D., *Associate Professor of Political Science.*
Steven L. Spiegel, Ph.D., *Associate Professor of Political Science.*
Ciro Zoppo, Ph.D., *Associate Professor of Political Science.*
Thad A. Brown, Ph.D., *Assistant Professor of Political Science.*
Paul Jabber, Ph.D., *Assistant Professor of Political Science.*
John R. Petrocik, Ph.D., *Assistant Professor of Political Science.*
Stephen L. Skowronek, Ph.D., *Assistant Professor of Political Science.*
Arthur A. Stein, Ph.D., *Assistant Professor of Political Science.*
Robert C. Welsh, Ph.D., *Assistant Professor of Political Science.*

James G. Fisk, B.S., *Adjunct Professor of Political Science.*
Pierre-Michel Fontaine, Ph.D., *Acting Associate Professor of Political Science.*
Marvin Hoffenberg, M.A., *Professor of Political Science in Residence.*
Paul Brett Hammond, M.A., *Acting Assistant Professor of Political Science.*
Laura M. Lake, Ph.D., *Lecturer in Political Science.*

Goals of the Undergraduate Program in Political Science

The undergraduate program aims to provide an understanding of basic political processes and institutions as these operate in different national and cultural contexts, of the interaction between national states, of the changing character of the relations between citizens and governments, and of the values and criteria by which the quality of political life is judged. This program may be individually focused to serve the needs of the liberal arts major, the student seeking preparation for graduate work in Political Science, Public Administration, Law, and other professional fields, and the student preparing for specialized roles in political and public organizations.

Inquiries about the program and any possible recent changes should be addressed to the Undergraduate Counselor, Department of Political Science.

Preparation for the Major

Two lower division courses (8 units): Political Science 1; and Political Science 2, 3, 4, or 6. These courses must be taken for a letter grade.

The Major

Requirements I. For those students *who had less than 84 quarter units at the beginning of the fall quarter 1975* the following requirements apply (all other students, see Requirements II below).

Ten upper division political science courses (for a total of 40 units) numbered from 102 to 199 must be taken for a letter grade. The student is also required to complete 4 upper division courses (for a total of 16 units) in one or more of the following social sciences: Anthropology, Communication Studies (only 160), Economics, Geography, History, Management (only 150, 180, 190A-190B), Psychology (except 115, 116, 117), Sociology. These courses must also be taken for a letter grade. In addition to requirements for graduation prescribed by the College of Letters and Science, the student is expected to maintain a 2.0 overall grade point average in all upper division political science courses. Upper division political science courses are organized into six fields: (I) Political Theory, (II) International Relations, (III) Politics, (IV) Comparative Government, (V) Public Law, and (VI) Public Administration and Local Government.

In fulfilling the requirement of 10 upper division political science courses, the student must satisfy the following: A *concentration* in one field by completing at least four upper division courses in that field. It is recommended that one of these courses be an Undergraduate Seminar, 197A – F. (See field concentration requirements below).

A *distribution* of two courses in each of two other fields (4 courses).

Political Science 110, Introduction to Political Theory, is required of all political science majors. The Political Science 110 requirement may be met by taking two quarters of the Political Science 111 series. Political Science 110 may count for either the concentration or the distribution requirement.

One additional elective course in political science to comprise the total of ten.

Field Concentration Requirements. Specific requirements for field concentration are as follows:

(I) *Political Theory:* Political Science 110 and 3 additional courses in Field I.

(II) *International Relations:* Political Science 2 and any 4 upper division courses in Field II. Four units from 175A-175B may be counted as one of the 4 courses in Field II. Only one of the defense studies courses – 138A, 138B, and 138C – may be counted toward field concentration requirement.

(III) *Politics:* Any four courses in Field III. Political Science 182A may also be counted toward concentration in this field.

(IV) *Comparative Government:* Political Science 168 and any 3 additional courses in Field IV. Political Science 115, 188A or 188B – but not more than one of them – may also be counted toward concentration in this field. Political Science 3 is recommended as the second lower division course.

(V) *Public Law.* Political Science 170 or 171 and any 3 additional courses in Field V. Political Science 171 is a prerequisite for Political Science 172A or 172B. Political Science 117 or 187 – but not more than one of them – may also be counted toward concentration in this field.

(VI) *Public Administration and Local Government:* Any 4 courses in Field VI. Political Science 138C, 173 or 174 – but not more than one of them – may also be counted toward concentration in this field.

Note: No course may be counted toward both concentration and distribution requirements.

Also, courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than 3 of these courses may be applied toward the major.

Political Science 198 and 199 may not apply to fulfill either the concentration or distribution requirement.

Requirements II. Those students *who had more than 84 quarter units at the beginning of the fall quarter 1975* see the undergraduate counselor for applicable requirements.

Undergraduate Seminars

Each quarter the department will offer a series of seminars, limited to 20 students, offered in each field. The prerequisites will be two upper division courses in the field in which the seminar is offered, a 3.25 average at the upper division level in political science or discretion of the instructor.

The courses will be numbered: 197A-Theory, 197B-International Relations, 197C-Politics, 197D-Comparative Government, 197E-Public Law and 197F-Public Administration and Local Government.

These courses may count for either the concentration or distribution requirement and students who qualify are encouraged to take them.

The Honors Program

Qualifications. Completion of an undergraduate seminar; a 3.40 grade-point average at the upper division level in political science; eligibility for College of Letters and Science honors status.

The Program. Students wishing to qualify for graduation with Departmental Honors must maintain a 3.40 grade point average in upper division political science and complete the following: (1) A one-year seminar (Political Science 198A, 198B, 198C). The first quarter of the seminar, Political Science 198A, is a general seminar on political science and involves research. The second and third quarters, P.S. 198B and 198C, are devoted to writing a senior thesis under the direction of a faculty member. The honors thesis will be read by the respective field committees and judged for its quality and graded as to high honors, honors, pass, no pass, which is equivalent to A,B,C,F on the grade scale. (2) Eight upper division courses, excluding the courses 119, 139, 149, 169, 179 and 189 distributed as follows: Political Science 110, three courses in one field and four additional courses, two in each of two other fields. These eight courses plus the one-year seminar will comprise the eleven upper division courses required for Honors in Political Science. (3) Four upper division courses in the social sciences other than political science.

Related Curricula

For the curricula in international relations and public service, see the College of Letters and Science.

Lower Division Courses

1. Introduction to American Government. Lecture, three hours; discussion, one hour. An introduction to the principles and problems of government with particular emphasis on national government in the United States. This course fulfills the requirement of American History and Institutions, and is required of all students majoring in political science. The Staff

2. World Politics. Lecture, three hours; discussion, one hour. There are no prerequisites for this course. An introduction to problems of world politics. This course is required of all students concentrating in Field II and may be used to fulfill one of the two requirements for the Preparation for the Major. Mr. Jervis, Mr. Wilkinson

3. Introduction to Comparative Government. Lecture, three hours; discussion, one hour. Prerequisite: course 1. A comparative study of constitutional principles, governmental institutions, and political processes in selected contemporary states, with emphasis on the major European governments. This course may be used to fulfill one of the two course requirements for the Preparation for the Major. The Staff

4A-4Z. Current Problems in Political Science. Prerequisite: Successful completion of or concurrent enrollment in Political Science 1 and consent of the instructor. Proseminars will be offered each quarter dealing with selected political problems. Topics will be announced during the preceding quarter. Enrollment will be limited. Preference will be given to declared freshman majors. This course may be used to fulfill one of the two course requirements for the Preparation for the Major. The Staff

6. Introduction to Quantitative Research. Prerequisite: one previous course in political science, e.g. Political Science 1, 2, or 3. An introduction to the collection and analysis of political data. The course emphasizes the application of statistical reasoning to the study of relationships among political variables. Students use the computer as an aid in analyzing data from various fields of political science, among them comparative politics, international relations, American politics, and public administration. Will serve as a prerequisite for Political Science 102, 103, and 104A. This course may be used to fulfill one of the two course requirements for the Preparation for the Major. The Staff

Upper Division Courses

Prerequisite for all upper division courses: upper division standing or consent of instructor.

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102. The Statistical Analysis of Political Data. Prerequisite: course 6. An introduction to statistical inference. Topics will include measures of central tendency, elementary probability theory, common probability distributions, least-squares and maximum likelihood estimation, confidence intervals and statistical tests, comparison of means, the analysis of variance, and multiple regression and correlation. Statistical techniques and topics will be illustrated with applications to a variety of political data. May be concurrently scheduled with Political Science 204. The Staff

M103. Economic Models of the Political Process. (Same as Economics M135.) (Formerly numbered Political Science 103.) Prerequisites: Economics 101A and a basic course in Political Science and junior-senior status. This seminar is jointly offered by the Economics and Political Science Departments, and permission of the instructor is required. The course examines conceptions and applications of two different processes of political interaction, the cooperative (as in public choice) and the conflictual (as in warfare, making use of economic models of choice and equilibrium. The Staff

104A-104B. Introduction to Survey Research. Prerequisite: course 6 for undergraduates or course 203C for graduates. Course 104A is prerequisite to course 104B. A two-quarter course in the funda-

NOTE: For key to symbols, see pages 65 and 66

mentals of survey research as a method. The first quarter will cover sampling theory and methods, the writing of questions, questionnaire construction, and interviewing. In addition, students will be introduced to attitudes, attitude measurement, and attitude change. Students will participate in the formulation of a research problem. The second quarter will involve conducting a survey. Students will be responsible for developing a survey questionnaire, designing a sample, collecting interviews, maintaining quality control, and coding the interviews for machine tabulation. The final requirement for the course is that the student perform a computer-aided analysis of some part of the data and submit a written report of that research. Both quarters must be taken to receive credit. The Staff

FIELD I. POLITICAL THEORY

110. Introduction to Political Theory. (Formerly numbered 101.) Lecture, three hours; discussion, one hour. An exposition and analysis of selected political theorists and concepts from Plato to the present. This course is required of all majors and *must be taken no later than the junior year.* The Staff

111A. History of Political Thought: Ancient and Medieval Political Theory. An exposition and critical analysis of the major political philosophers and schools from Plato to Machiavelli. The Staff

111B. History of Political Thought: Early Modern Political Theory. An exposition and critical analysis of the major political philosophers and schools from Hobbes to Bentham. Mr. Ashcraft

111C. History of Political Thought: Late Modern and Contemporary Political Theory. An exposition and critical analysis of the major political philosophers and schools from Hegel to the present. Mr. Ashcraft, Mr. Wolfenstein

112. Nature of the State. A systematic analysis of modern concepts and problems of political association. The Staff

113. Problems in Twentieth Century Political Theory. A study and interpretation of theorists who have focused their analyses on the social and political problems of the twentieth century. Mr. Rocco

114A-114B. American Political Thought. Prerequisite: 114A or consent of instructor is prerequisite to 114B.

114A. An exposition and critical analysis of American political thinkers from the Puritan period to 1865.

114B. An exposition and critical analysis of American political thinkers from 1865 to the present. Mr. Smith

115. Theories of Political Change. Prerequisite: course 110 or consent of the instructor. A critical examination of theories of political change, the relation of political change to changes in economic and social systems, and the relevance of such theories for the experience of both western and nonwestern societies. This course may be counted in either Field I or IV. Mr. Lofchie, Mr. Nixon

116. Marxism. A critical analysis of the origins, nature, and development of Marxist political theory. Mr. Ashcraft, Mr. Wolfenstein

117. Jurisprudence. Development of law and legal systems; consideration of fundamental legal concepts; contributions and influence of modern schools of legal philosophy in relation to law and government. This course may be counted in either Field I or V. Mr. Gerstein

119A-119Z. Special Studies in Political Theory. Prerequisites: course 110, one additional course in Field I, and consent of the instructor. Intensive examination of one or more special problems appropriate to political theory. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

FIELD II. INTERNATIONAL RELATIONS

120. Foreign Relations of the United States. Lecture, three hours; discussion, one hour. A survey of the factors and forces entering into the formation and implementation of American foreign policy, with special emphasis on contemporary problems. Mr. Jabber, Mr. Spiegel, Mr. Stein

121. Studies in Formulation of American Foreign Policy. A study of the formation of American foreign policy with respect to individual cases. Specific topics will be announced in the Schedule of Classes each quarter. The Staff

123. International Organization and Administration. A general survey of the institutions, political and administrative, of international organization, with emphasis on the United Nations. The Staff

124. International Political Economy. A study of the political aspects of international economic issues. Mr. Krasner

126. Peace and War. Theory and research on the causes of war and the conditions of peace. Mr. Wilkinson

127. The Atlantic Area in World Politics. A contemporary survey of the foreign policies of the North Atlantic countries and of cooperative efforts to attain political, economic, and military coordination on a regional basis. Mr. Zoppo

128. The Soviet Sphere in World Politics. A contemporary survey of the foreign policies and aspirations of the Soviet Union and other states in the Soviet bloc; analysis of content and effects of Communist doctrine affecting relations between the Soviet and democratic spheres. Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

131. Latin American International Relations. The major problems of Latin-American international relations and organization in recent decades. Mr. Gonzalez, Ms. Purcell

132A-132B. International Relations of the Middle East. Prerequisite: course 132A is prerequisite to 132B, or consent of instructor for 132B.

132A. Contemporary regional issues and conflicts, with particular attention to inter-Arab politics, the Arab-Israeli problem, and the Persian Gulf area.

132B. Role of the Great Powers in the Middle East, with emphasis on American, Soviet and West European policies since 1945. Mr. Jabber

135. International Relations of China. The relations of China with its neighbors and the other powers, with emphasis on contemporary interests and policies of China vis-a-vis the United States and the Soviet Union. Mr. Baum

136. International Relations of Japan. The foreign policies of Japan, and the interests and policies of other countries, particularly the United States, as they relate to Japan. Mr. Baerwald

137. International Relations Theory. An examination of various theoretical approaches to international relations and their application to a number of historical cases and contemporary problems. Mr. Krasner, Mr. Stein

138A-138B-138C. Defense Studies.

138A. Defense Strategy and Policies. Analysis of national and international security problems in the nuclear era, with special emphasis on the United States. Mr. Jervis

138B. The Conduct of Modern War. A study of recent and contemporary wars with special emphasis on political and strategic problems. The Staff

138C. Military Policy and Organization. A study of the institutional and policy framework in the national military field. This course may be counted in either Field II or IV. Mr. Ries

139A-139Z. Special Studies in International Relations. Prerequisite: Two courses in Field II, or course 2 and one course in Field II, and consent of the instructor. Intensive examination of one or more special problems appropriate to international relations. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

FIELD III. POLITICS

M140. Political Psychology. (Same as Psychology M138.) Prerequisite: Psychology 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues. Mr. Sears

141. Public Opinion and Voting Behavior. Lecture, three hours; discussion, one hour. A study of the character and formation of political attitudes and public opinion. The role of public opinion in elections, the relationship of political attitudes to the vote decision, and the influence of public opinion on public policy formulation will be emphasized. Mr. Brown, Mr. Petrocik

142. The Politics of Interest Groups. A systematic investigation of the role of political interest groups in the governmental process, with attention directed to the internal organization, leadership, and politics of such groups; to the goals and functions of various types of groups, and to the strategy and tactics of influence. Ms. Orren, Mr. Skowronek

143. Legislative Politics. A study of those factors which affect the character of the legislative process and the capacity of representative institutions to govern in contemporary society. Mr. Marvick, Mr. Snowiss

144. The American Presidency. A study of the nature and problems of presidential leadership, emphasizing the impact of the bureaucracy, congress, public opinion, interest groups, and the party system upon the presidency and national policy-making. Ms. Orren, Mr. Skowronek, Mr. Snowiss

145. Political Parties. The organization and activities of political parties in the United States. Attention is focused upon the historical development of the parties, the nature of party change, campaign functions and the electoral role of the parties, membership problems and party activists, political finance, and policy formulation practices. Mr. Brown, Mr. Marvick, Mr. Petrocik

146. Political Behavior Analysis. Prerequisite: course 141. The use of quantitative methods in the study of political behavior, especially in relation to voting patterns, political participation, and techniques of political action. Mr. Brown, Mr. Marvick, Mr. Petrocik

147. Minority Group Politics. Lecture, three hours; discussion, one hour. Prerequisites: course 1, plus one of the following: one additional 140-level course; or one upper-division course on race or ethnicity from History, Psychology, or Sociology; or consent of the instructor. A systematic evaluation of the functioning of the American polity, related to problems of race and ethnicity. Topics include: leadership, organization, ideology, conventional versus unconventional political behavior, inter-minority relations, co-optation, symbolism, and repression. Mr. Rocco

149A-149Z. Special Studies in Politics. Prerequisites: Two courses in Field III and consent of the instructor. Intensive examination of one or more special problems appropriate to politics. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

See also course 182A.

FIELD IV. COMPARATIVE GOVERNMENT

152. British Government. The government and politics of the United Kingdom; the British constitution, parliament, parties and elections, foreign policies, administrative problems, and local governments. The Staff

153. Governments of Western Europe. The constitutional and political structure and development of France and other states of continental Western Europe, with particular attention to contemporary problems. Mr. Dogan

154. Governments of Central Europe. The constitutional and political structure and development of Germany and other Central European states, with particular attention to contemporary problems. The Staff

156. The Government of the Soviet Union. An intensive study of the political and institutional organization of the Soviet Union and its component parts, with special attention to contemporary political issues, as well as party and governmental structures.
Mr. Cattell, Mr. Kolkowicz, Mr. Korbonski

157. Governments of Eastern Europe. A study of the political and governmental organization of the Communist countries of Eastern and Central Europe (exclusive of the U.S.S.R.) with special reference to the institutions, practices and ideologies including interregional relations. Mr. Korbonski

159. Chinese Government and Politics. Organization and structure of Chinese government with particular attention to the policies, doctrines, and institutions of Chinese Communism; political problems of contemporary China. Mr. Baum

160. Japanese Government and Politics. The structure and operation of the contemporary Japanese political system, with special attention to domestic political forces and problems. Mr. Baerwald

161. Government and Politics in Southeast Asia. The institutional and political processes and problems of states in Southeast Asia (Burma, Thailand, Malaya, Laos, Cambodia, Vietnam, Indonesia, and the Philippines). The Staff

162. Government and Politics in South Asia. The political experiences and institutions of the Indian subcontinent since 1947, with particular attention to the Republic of India, but also with reference to Pakistan and Ceylon. Mr. Sisson

163A. Government and Politics in Latin America. (Formerly numbered 168A.) A comparative study of governmental and political development, organization and practices in the states of Middle America. Mr. Gonzalez, Ms. Purcell

163B. Government and Politics in Latin America. (Formerly numbered 168B.) A comparative study of governmental and political development, organization and practices in the states of South America. Mr. Gonzalez, Ms. Purcell

164. Government and Politics in the Middle East. A comparative study of government in the Arab States, Turkey, Israel and Iran. Mr. Jabber, Mr. Kerr

165. Government and Politics in North Africa. A comparative study of the government and politics of the North African states, including the relationship between political development, political organization and social structure. Mr. Kerr

166A-166B-166C. Government and Politics in Sub-Saharan Africa. Patterns of political change in Africa south of the Sahara with special reference to nationalism, nation-building and the problems of development. (Course is offered in three parts.)

166A. Western Africa.

166B. Eastern Africa.

166C. Southern Africa. Mr. Lofchie, Mr. Sklar

167. Ideology and Development in World Politics. A comparative study of the major modes of political and economic development in the world today. Relations between industrial and non-industrial societies are examined in light of the current debate about imperialism. Mr. Sklar

168L. Comparative Political Analysis. Lecture. Prerequisites: two courses in Field IV, or Political Science 3 and one course in Field IV. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis. 168L or 168S is required of all students concentrating in Field IV. This course will be conducted as a lecture course. *Either* 168L *or* 168S can be taken for credit: credit will not be given for both. The Staff

168S. Comparative Political Analysis. Seminar. Prerequisite: two courses in Field IV, or Political Science 3 and one course in Field IV. Consent of instructor. Major approaches to the study of comparative politics. Concepts and methodology of comparative analysis. Either 168L or 168S is required of all students concentrating in Field IV. This course will be conducted as a seminar. *Either* 168L *or* 168S can be taken for credit: credit will not be given for both. The Staff

169A-169Z. Special Studies in Comparative Government. Prerequisites: Two courses in Field IV, or course 3 and one course in Field IV, and consent of the instructor. Intensive examination of one or more special problems appropriate to comparative government. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

See also Courses 115, 188A, 188B.

FIELD V. PUBLIC LAW

170. The Anglo-American Legal System. Lecture, four hours; discussion, one hour. Evolution of the English common law courts and their legal system, with emphasis on the development of the basic concepts of law which were received from that system in the United States, and remain relevant today. Either this course or Political Science 171 is required of all students concentrating in Field V. Mr. Gerstein

171. The Supreme Court. Lecture, four hours, discussion, one hour. The history, procedures, and role of the Supreme Court in its legal-constitutional and political aspects. Emphasis will be given to the current and recent activities of the Court. Decisions of the Court, historical and current commentaries, and judicial biography will be utilized. Either this course or Political Science 170 is required of all students concentrating in Field V. Mr. Gerstein, Mr. Hobbs

172A. American Constitutional Law. Prerequisite: course 171. Constitutional questions concerning the separation of powers, federalism, and the relationship between government and property. Mr. Gerstein, Mr. Hobbs

172B. American Constitutional Law. Prerequisite: course 171. The protection of civil and political rights and liberties under the Constitution. Mr. Gerstein, Mr. Hobbs

173. Government and Business. The nature of the corporation; the regulation of competition; government promotion of economic interests; regulation of industries clothed with a public interest; government ownership and operation. This course may be counted in either Field V or VI. Mr. Bernstein, Ms. Orren

174. Government and Labor. The labor force and the nature of the trade union; regulation of labor relations; programs to encourage full employment and to mitigate unemployment; protective labor legislation. This course may be counted in either Field V or VI. Mr. Bernstein

175A-175B. International Law. A study of the nature and place of international law in the conduct of international relations. 175A and 175B may be offered in consecutive terms or simultaneously. If offered consecutively, 175A is prerequisite to 175B, and a student may take 175A alone for four units credit. If they are offered simultaneously, a student must take both courses for 8 units. A maximum of 4 units (1 course) may be counted in Field II. The Staff

179A-179Z. Special Studies in Public Law. Prerequisites: course 170 or 171, one additional course in Field V, any special requirements, and consent of the instructor. Intensive examination of one or more special problems appropriate to public law. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major. The Staff

See also Courses 117, and 187.

FIELD VI. PUBLIC ADMINISTRATION AND LOCAL GOVERNMENT

180. State and Local Government. A study of state political systems, including their administrative and local sub-systems; intergovernmental relationships; and their policy outputs, with specific attention being given to California. Mr. Bollens

181. Introduction to Public Administration. An introduction to the study of the processes and structures designed to convert citizen demands and public decisions into collective action and achievement. Particular attention is devoted to the capacity of American administrative systems to respond effectively to citizen expectations within the restraints of due process. Mr. Fried

182A. Metropolitan Area Government and Politics. An overview of the political and social organization, decision-making processes, policy problems, and conflicts of metropolitan areas and their central cities and suburbs. Attention is also given to the impact on these areas of the national and state political systems and racial, ethnic, and protest movements. This course may be counted in either Field III or VI. Mr. Bollens

182B. City Government and Politics. Prerequisite: course 182A or consent of the instructor. Intensive analysis of contemporary urban governance in the United States. Emphasis is given to such student participatory activities as field-work, research, and gaming of urban politics and policy problems. Mr. Bollens

183. Administration of International Agencies and Programs. An examination of the administrative patterns and practices of the United Nations agencies and overseas development programs, including distinctive characteristics of organization and management selection of personnel, and methods of financing. The Staff

185. Public Personnel Administration. The process of formulating and administering public personnel policies; concepts and principles utilized in selected governmental personnel systems. Focus will be primarily upon governmental systems in the United States (national, state, local, foreign service, military) but also comparisons will be made with selected other governmental systems. The Staff

186. National Policy and Administration. A study of the major policies and programs of the national government and their administration as illustrated in such areas as national defense, social welfare, agriculture, etc. Particular attention will be paid to the role of the President and other administrators in formulating public policy and in maintaining a responsible bureaucracy. Mr. Engelbert, Mr. Fried

187. Law and Administration. Legal controls of administration action. Substantive and procedural limits on administrative discretion imposed by legislation, executive and judicial agencies and the sources of legal powers of administrative bodies within these limits. This course may be counted in either Field V or VI. The Staff

188A. Comparative Public Administration. An analysis of bureaucratic structures and function in the United States, other industrialized, and less

NOTE: For key to symbols, see pages 65 and 66

developed countries, primarily at the national level. Special attention is paid to methods of comparative analysis and the utility of various models. This course may be counted in either Field IV or VI.
Mr. Fried, Mr. Suleiman

188B. Comparative Urban Government. A cross-cultural examination of the forms and processes of urban government. Particular attention will be paid to the role of urbanization in political development. This course may be counted in either Field IV or VI.
Mr. Fried

189A-189Z. Special Studies in Public Administration. Prerequisites: Two courses in Field VI and consent of the instructor. Intensive examination of one or more special problems appropriate to public administration. Sections will be offered on a regular basis with topics announced in the preceding quarter. Courses 119, 139, 149, 169, 179 and 189 may be applied no more than twice toward the field concentration requirement. No more than three of these courses may be applied toward the major.
The Staff

190. Theories of Organization. Prerequisite: courses 181 or 186. An examination of the theoretical frameworks for studying public and private bureaucracies, with emphasis upon ideologies, values, behavioral patterns, and concepts of organization. Mr. Engelbert

191. Urban and Regional Planning and Development. A comparative study of governmental policies, procedures, and agencies involved in the planning and development of urban and regional communities and areas.
Mr. Engelbert, Mr. Hoffenberg

See also Courses 138C, 173, and 174.

195A-195B-195C. Honors Seminar and Thesis. Prerequisites: one course in the 197 series; a 3.40 grade-point average at the upper division level in political science courses; eligibility for College of Letters and Science Honors status. Political Science 195A is prerequisite for 195B, and Political Science 195B is prerequisite for 198C.

Political Science 195A-195B-195C is a one-year honors seminar and thesis-writing sequence. Students entering 195A are expected to have some experience in writing research papers, and to have in mind a research topic suitable for treatment at length and in depth.

During the first quarter (195A) students will define their research topic, select a suitable research method, determine appropriate sources of information, prepare a research proposal, find a thesis director, begin their research, and submit progress reports or preliminary drafts.

Class sessions in 195A will emphasize critical and constructive discussions of students' topics, methods, and problems in research, as well as general consideration of political science research topics and methods of current or continuing interest. Students will also meet privately with the instructor to discuss the progress of their research. The second and third quarters (195B-195C) are devoted to writing an honors thesis under the direction of a faculty member. The honors thesis will be read by the appropriate field committee and graded High Honors, Honors, or No Honors.
The Staff

197A-197F. Seminars for Majors. Prerequisites: major in political science and upper division standing; a 3.25 grade-point average at the upper division level in political science courses; and two upper division courses in the field in which the seminar is offered. These courses may count for distribution or concentration requirements.

199. Readings in Political Science. (½ to 1 course) Prerequisites: upper division standing, overall grade-point average of 3.0, consent of the instructor and approval by the Chairman of the Department. May be repeated for a total of four full courses. Individual study. See additional information in statement of requirements for the major in political science. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

PSYCHIATRY AND BIOBEHAVIORAL SCIENCES

(Department Educational Activities Office, B7-349 NPI)

The Department of Psychiatry and Biobehavioral Sciences does not offer an undergraduate degree. The following upper division courses are offered by the department, with enrollment restrictions as indicated. For a complete listing of graduate courses please consult the Graduate Catalog.

Program

The Department of Psychiatry and Biobehavioral Sciences offers interdisciplinary courses related to the mental health professions of the biobehavioral sciences in addition to its programs for psychiatry interns and residents and for medical students (courses for medical students are listed in the School of Medicine Announcement and the School of Medicine Handbook of Clinical Courses).

A Developmental Disabilities Immersion Program is co-sponsored by the Departments of Psychology and Psychiatry and Biobehavioral Sciences and by the Office of Experimental Education Programs. Each year thirty juniors and seniors are selected for the program, which runs during the winter and spring quarters. Students participate in courses and research at Lanterman State Hospital (formerly Pacific State Hospital), a facility for mentally retarded citizens in Pomona, and do related fieldwork while living together at the nearby UCLA Experimental Learning Center. During each of the two quarters up to twenty units of course work related to the theme of developmental disabilities are offered. Most of the courses are in the Psychiatry/Psychology M180-181 series, but courses from other departments (such as Biology) may supplement these offerings. Many of the courses fulfill Psychology undergraduate major requirements. Students interested in the program should contact the Office of Experimental Education Programs or the Psychology Advising Office.

Information on clinical practicums which are offered in conjunction with other educational institutions and UCLA departments may be obtained from the Department's Educational Activities Office. The following courses are open to qualified students.

Upper Division Courses

M112. A Laboratory for Naturalistic Observations: Developing Skills and Techniques. (Same as Anthropology M176 and Psychology M155.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed.
Mr. Gallimore, Mr. Weisner

M135. Introduction to Developmental Disabilities of Language. Lecture; two hours; discussion, two hours. Prerequisites: Linguistics 1 or 100, and 130 or 131 or consent of instructor. Introduction to the field of language disorders of children. The course will deal primarily with some clinical syndromes which are associated with delayed or deviant language acquisition: aphasia, autism, mental retardation. Theories regarding etiology and the relationship of these disorders to each other will be examined. Such questions as the relationship of cognition to linguistic ability will be considered. Concurrently scheduled with Psychiatry M237/ Linguistics M235. Graduate students will be expected to apply more sophisticated knowledge and produce a research paper of greater depth.
Ms. Needleman

M180A. Contemporary Problems in Mental Retardation. (Same as Psychology M180A.) Prerequisites: Psychology 10, 41, and 127 or 130, and enrollment in Immersion Program. Presentation of the concepts, issues and research techniques in the area of mental retardation. Biological, psychological and community questions concerning the causes and treatment of developmental disabilities as well as systems for the care and training of retarded individuals will be explored. Lectures, directed reading and discussion. To be taken concurrently with Fieldwork in Contemporary Problems in Mental Retardation. The Staff

M180B. Contemporary Issues in Mental Retardation. (Same as Psychology M180B.) Prerequisites: Psychology M180A and enrollment in Immersion Program. Psycho-educational issues in mental retardation, relating literature to ongoing field experiences through lectures, discussions, media and 6 student papers. Mr. Baker

M181A-181B. Fieldwork in Contemporary Problems in Mental Retardation. (Same as Psycholoby M181A-181B.) Prerequisite: concurrent enrollment in Psychology M180A-180B. Fieldwork experience to be taken concurrently with Contemporary Problems in Mental Retardation. The Staff

M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychology M182A.) Prerequisite: Psychology 41 and enrollment in Immersion Program. Introduction of statistical method and design in experimentation principles of statistical inference and appropriate testing methods. An introduction to the use of computers and various software packages is presented. Mr. Guthrie

M182B. Advanced Design and Statistics. (Same as Psychology M182B.) Prerequisite: Psychology M182A. Continuation of Psychology M182A.
Mr. Eyman

M182C. Perception. (Same as Psychology M182C.) Prerequisite: enrollment in Immersion Program. Human information processing, both physical and psychological with special emphasis on pathologies in the mentally retarded. Mr. Galbraith

M182D. Current Issues in Mental Retardation. (Same as Psychology M182D.) Prerequisite: enrollment in Immersion Program. Advanced topics in mental retardation. May be repeated for credit with permission of instructor. The Staff

M190. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychology M18F.) Prerequisite: consent of instructor. Basic course for undergraduate students which integrates a systematic overview of common forms of behavioral plasticity and standard training procedures in laboratory animals (in behavioral, neurophysiological and pharmacological studies) with a broad biological, evolutionary perspective.
Mr. Soltysik

199. Special Studies in Psychiatry. (½ to 1 course) Prerequisite: consent of instructor and Department Chairman. Consent is based on a written proposal outlining the course of study. The proposal is to be structured by instructor and student at time of initial enrollment. Additional information and course proposal forms are available in the Educational Activities Office, B7-349 NPI. The Staff

PSYCHOLOGY

(Department Office, 1283 Franz Hall)

Bruce L. Baker, Ph.D., *Professor of Psychology.*
Peter M. Bentler, Ph.D., *Professor of Psychology.*
Robert A. Bjork, Ph.D., *Professor of Psychology.*
William E. Broen, Jr., Ph.D., *Professor of Psychology.*
[16]Edward C. Carterette, Ph.D., *Professor of Psychology.*
James C. Coleman, Ph.D., *Professor of Psychology and Education.*
Barry E. Collins, Ph.D., *Professor of Psychology.*

Andrew L. Comrey, Ph.D., *Professor of Psychology.*
[16]Gaylord D. Ellison, Ph.D., *Professor of Psychology.*
Seymour Feshbach, Ph.D., *Professor of Psychology (Chairman of the Department).*
Morton P. Friedman, Ph.D., *Professor of Psychology (Vice Chairman of Undergraduate Affairs).*
John Garcia, Ph.D., *Professor of Psychology and Psychiatry.*
Harold B. Gerard, Ph.D., *Professor of Psychology.*
Michael J. Goldstein, Ph.D., *Professor of Psychology.*
Patricia M. Greenfield, Ph.D., *Professor of Psychology.*
Barbara A. Henker, Ph.D., *Professor of Psychology.*
John P. Houston, Ph.D., *Professor of Psychology.*
Wendell E. Jeffrey, Ph.D., *Professor of Psychology.*
Harold H. Kelley, Ph.D., *Professor of Psychology.*
[16]Franklin B. Krasne, Ph.D., *Professor of Psychology.*
[16]John C. Liebeskind, Ph.D., *Professor of Psychology.*
O. Ivar Lovaas, Ph.D., Litt.D., *Professor of Psychology.*
Millard C. Madsen, Ph.D., *Professor of Psychology.*
Irving Maltzman, Ph.D., *Professor of Psychology.*
Albert Mehrabian, Ph.D., *Professor of Psychology.*
Charles Y. Nakamura, Ph.D., *Professor of Psychology.*
[16]Donald Novin, Ph.D., *Professor of Psychology.*
Amado M. Padilla, Ph.D., *Professor of Psychology.*
Allen Parducci, Ph.D., *Professor of Psychology.*
Bertram H. Raven, Ph.D., *Professor of Psychology.*
David O. Sears, Ph.D., *Professor of Psychology and Political Science.*
Joseph G. Sheehan, Ph.D., *Professor of Psychology.*
Gerald H. Shure, Ph.D., *Professor of Psychology and Sociology.*
James P. Thomas, Ph.D., *Professor of Psychology (Vice Chairman of Graduate Affairs).*
Bernard Weiner, Ph.D., *Professor of Psychology.*
Richard Centers, Ph.D., *Emeritus Professor of Psychology.*
S. Carolyn Fisher, Ph.D., *Emeritus Professor of Psychology.*
Joseph A. Gengerelli, Ph.D., *Emeritus Professor of Psychology.*
Milton E. Hahn, Ph.D., *Emeritus Professor of Psychology.*
F. Nowell Jones, Ph.D., *Emeritus Professor of Psychology.*
George F.J. Lehner, Ph.D., *Emeritus Professor of Psychology.*
Donald B. Lindsley, Ph.D., Sc.D., *Emeritus Professor of Psychology and Physiology.*
Laurence A. Petran, Ph.D., F.A.G.O., *Emeritus Professor of Music and Psychology.*
Jessie L. Rhulman, Ed.D., *Emeritus Professor of Psychology.*
Eliot H. Rodnick, Ph.D., *Emeritus Professor of Psychology.*
John P. Seward, Ph.D., *Emeritus Professor of Psychology.*
Marion A. Wenger, Ph.D., *Emeritus Professor of Psychology.*
Howard S. Adelman, Ph.D., *Associate Professor of Psychology and Lecturer in Education.*
Richard P. Barthol, Ph.D., *Associate Professor of Psychology.*
[16]Jackson Beatty, Ph.D., *Associate Professor of Psychology.*
Elizabeth L. Bjork, Ph.D., *Associate Professor of Psychology.*
[16]Larry L. Butcher, Ph.D., *Associate Professor of Psychology.*
Jacqueline D. Goodchilds, Ph.D., *Adjunct Associate Professor of Psychology and Associate Research Psychologist.*
Gerald M. Goodman, Ph.D., *Associate Professor of Psychology.*
Constance L. Hammen, Ph.D., *Associate Professor of Psychology.*
Eric W. Holman, Ph.D., *Associate Professor of Psychology.*
Marion Jacobs, Ph.D., *Adjunct Associate Professor of Psychology.*
Donald G. MacKay, Ph.D., *Associate Professor of Psychology.*
Dennis J. McGinty, Ph.D., *Adjunct Associate Professor of Psychology and Associate Research Anatomist.*
George E. Mount, Ph.D., *Associate Professor of Psychology.*
L. Anne Peplau, Ph.D., *Associate Professor of Psychology.*
Shelley E. Taylor, Ph.D., *Associate Professor of Psychology.*
Thomas D. Wickens, Ph.D., *Associate Professor of Psychology.*
J. Arthur Woodward, Ph.D., *Associate Professor of Psychology.*
Eran Zeidel, Ph.D., *Associate Professor of Psychology.*
Paul R. Abramson, Ph.D., *Assistant Professor of Psychology.*
Arthur P. Arnold, Ph.D., *Assistant Professor of Psychology.*
Andrew Christensen, Ph.D., *Assistant Professor of Psychology.*
Halford H. Fairchild, Ph.D., *Assistant Professor of Psychology.*
Patrice L. French, Ph.D., *Assistant Professor of Psychology.*
Barbara A. Gutek, Ph.D., *Assistant Professor of Psychology.*
Manuel Leon, Ph.D., *Assistant Professor of Psychology.*
Vicki M. Mays, Ph.D., *Assistant Professor of Psychology.*
Sigrid R. McPherson, Ph.D., *Adjunct Assistant Professor of Psychology and Medical Psychology and Assistant Research Psychologist.*
Hector F. Myers, Ph.D., *Assistant Professor of Psychology.*
Nancy L. Rader, Ph.D., *Assistant Professor of Psychology.*
Perry W. Thorndyke, Ph.D., *Adjunct Assistant Professor of Psychology.*

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Armand A. Alkire, Ph.D., *Associate Clinical Professor of Psychology.*
Dorothy V. Anderson, Ph.D., *Associate Clinical Professor of Psychology and Medical Psychology.*
Joseph A. Angelo, Ph.D., *Associate Clinical Professor of Psychology.*
Marcelline M. Burns, Ph.D., *Assistant Research Psychologist in Psychology and Engineering.*
Matthew W. Buttiglieri, Ph.D., *Clinial Professor of Psychology.*
Timothy Cannon, Ph.D., *Lecturer in Psychology.*
Jeremiah P. Collins, Ph.D., *Lecturer in Psychology and Assistant Research Psychologist in Medical Psychology.*
William E. Davis, Ph.D., *Associate Clinical Professor of Psychology.*
Darrell C. Dearmore, M.A., *Lecturer in Psychology.*
Gary Faltico, Ph.D., *Associate Clinical Professor of Psychology.*
Norma D. Feshbach, Ph.D., *Professor of Education and Psychology.*
John T. Friar, Ph.D., *Assistant Clinical Professor of Psychology.*
Louis F. Friedman, Ph.D., *Lecturer in Psychology.*
Pamela C. Freundl, Ph.D., *Lecturer in Psychology.*
Rosslyn Gaines, Ph.D., *Professor of Medical Psychology and Psychology in Residence.*
Ralph E. Geiselman, Ph.D., *Lecturer in Psychology.*
Beverly Golden, Ph.D., *Associate Clinical Professor of Psychology.*
Thomas C. Greening, Ph.D., *Lecturer in Psychology.*
Robert L. Gunn, Ph.D., *Associate Clinical Professor of Psychology.*
William S. Hansen, Ph.D., *Assistant Professor of Psychology in Residence.*
Richard W. Hanson, Ph.D., *Assistant Clinical Professor of Psychology.*
Aaron H. Hass, Ph.D., *Assistant Clinical Professor of Psychology.*
Barbara Hayes-Roth, Ph.D., *Adjunct Assistant Professor of Psychology.*
Morris K. Holland, Ph.D., *Lecturer in Psychology.*
John P. Houlihan, Ph.D., *Lecturer in Psychology.*
George J. Huba, Jr., Ph.D., *Lecturer in Psychology and Assistant Research Psychologist.*
Harrington V. Ingham, M.D., *Senior Physician Diplomate in Student Health Service and Associate Clinical Professor of Psychiatry and Psychology.*
Harry J. Jerison, Ph.D., *Professor of Medical Psychology and Psychology in Residence.*
Paula B. Johnson, Ph.D., *Assistant Research Psychologist.*
Renee L. Kaplan, Ph.D., *Associate Clinical Professor of Psychology.*
George G. Katz, Ph.D., *Associate Clinical Professor of Psychology.*
Adam T. Kohler, Ph.D., *Assistant Clinical Professor of Psychology.*
John R. Levee, Ph.D., *Associate Clinical Professor of Psychology.*
Richard R. Lau, Ph.D., *Lecturer in Psychology.*
John H. Lyman, Ph.D., *Professor of Engineering and Psychology.*
Dennis McGinty, Ph.D., *Adjunct Associate Professor of Psychology.*
William H. McGlothlin, Ph.D., *Professor of Psychology in Residence and Research Psychologist in Psychiatry.*
John W. McKelligott, Ph.D., *Associate Clinical Professor of Psychology.*
Jim Mintz, Ph.D., *Lecturer in Psychology.*
Wilbur E. Morley, Ph.D., *Lecturer in Psychology.*
Herbert A. Moskowitz, Ph.D., *Associate Research Psychologist.*
Leslie Navran, Ph.D., *Clinical Professor of Psychology.*
Robert A. Niemann, Ph.D., *Assistant Research Engineer.*
Philip Oderberg, Ph.D., *Lecturer in Psychology.*
Robert E. Opaluch, Ph.D., *Lecturer in Psychology.*
Kenneth R. Pfeiffer, Ph.D., *Lecturer in Psychology and Engineering.*
Kenneth S. Pope, Ph.D., *Lecturer in Psychology.*
Raja Parasvraman, Ph.D., *Lecturer in Psychology.*
Frank Risch, Ph.D., *Clinical Professor of Psychology.*
Bruce D. Rubenstein, Ph.D., *Associate Clinical Professor of Psychology.*
Barbara N. Schaeffer, Ph.D., *Associate Clinical Professor of Psychology.*
George F. Seacat, Ph.D., *Clinical Professor of Psychology.*
David Shapiro, Ph.D., *Professor of Medical Psychology and Psychology.*
Satanand Sharma, Ph.D., *Assistant Research Psychologist in Psychology and Engineering.*
Jack E. Sherman, Ph.D., *Lecturer in Psychology.*
Edwin S. Shneidman, Ph.D., *Professor of Psychology, Sociology, and Thanatology in Residence.*
Margaret T. Singer, Ph.D., *Lecturer in Psychology.*
Manuel J. Smith, Ph.D., *Assistant Clinical Professor of Psychology.*
Zanwill Sperber, Ph.D., *Lecturer in Psychology.*
Michael Stevenson, Ph.D., *Assistant Research Psychologist.*
Kathryn L. West, Ph.D., *Associate Clinical Professor of Psychology.*
Joseph A. Wingard, Ph.D., *Adjunct Assistant Professor of Psychology.*
Allen T. Yates, Ph.D., *Assistant Research Psychologist.*
Kenneth Ziedman, Ph.D., *Assistant Research Psychologist in Psychology and Engineering.*

Training in Psychology at UCLA emphasizes the idea of Psychology as a biosocial laboratory science. To meet the diverse needs of students, there are three different major curricula: the Psychology Major, the Quantitative Psychology Major and the Psychobiology Major.

Students should note that all courses required for these majors (which include lower division courses and major courses), must be taken for a letter grade.

The Pre-Psychology Major:

While students are completing the lower division preparation courses for one of the majors listed above, they should be enrolled as Pre-Psychology Majors. Students may enroll in this pre-major at the Psychology Undergraduate Advising Office, Franz Hall 1531. Students must complete the preparation courses according to the rules set down in the major before they can enroll in that major. When students have completed the preparation courses for the major, they must petition to enter that major at the Psychology Undergraduate Advising Office.

The Psychology Major

PLEASE NOTE: Students must complete all pre-major courses with a 2.0 grade point average and petition for change of major by the time they attain 135 units. Students entering UCLA as freshmen can easily complete the eight preparation courses within 135 units. Transfer students who have a number of these preparation courses left to complete will have a more difficult time meeting this requirement. All transfer students must see a counselor in the Psychology Advising Office.

Required Lower Division Courses for the Psychology Major. Broad training in general science is required for the major in Psychology. The required lower division courses are as follows: Anthropology 11 or 1A; Biology 2 or Biology 5; Chemistry 2 (for those students who have completed 1 year of high school chemistry with a "C" or better, this requirement will be waived) or 11A; Mathematics 2; Physics 10 or 3A or 6A or 8A; Philosophy 1, 3, 4, 7, 8, 9, 10, or 21: Psychology 10; Psychology 41; Mathematics 50A or Economics 40, (Psychology 41 recommended). Students must complete all pre-major courses with a 2.0 grade point average and petition for change of major status by the time they attain 135 units.

It should be noted that the above are the minimum requirements in preparing for the major. More advanced courses in science and statistics would provide stronger preparation for the major.

Required Upper Division Major Courses. Admission to the major and to certain of the courses listed below is limited to students who have completed all of the above preparation courses with a 2.0 grade point average by the time they attain 135 units. See the section above entitled "The Pre-Psychology Major" for the procedures to follow to enroll in the Psychology Major. (1) All of the following content core courses: Psychology 110, 115, 120, 125, 135; (2) Psychology 100 (3) One of the following laboratory and field research courses: 111, 116, 121, 126, 132B, 136A, 136B, 143, M155, 170B, 174, 176, M181A-M181B; (4) An additional three upper division elective courses (12 units) in Psychology.

The Quantitative Psychology Major:

This major is an alternative to the Psychology Major. It provides students with basic training in both quantitative skills and in Psychology. Quantitative and computer skills are important in all fields of Psychology and are a very positive aspect in the student's preparation for a career in Psychology or related fields.

Required Lower Division Courses for the Quantitative Psychology Major. The following courses must be completed with a 2.0 grade point average: Biology 2 or Biology 5; Chemistry 2 (for those students who have completed 1 year of high school chemistry with a "C" or better, this requirement will be waived) or 11A; Engineering 10S (recommended), or Engineering 10C, or Engineering 10F; Mathematics 31A-31B, 32A-32B, 33A-33B; Physics 10, or 3A or 6A or 8A; Psychology 10.

It should be noted that the above are minimum requirements in preparing for the major. More advanced courses in science would provide stronger preparation for the major.

Required Upper Division Quantitative Psychology Major Courses. (Admission to the Quantitative Psychology Major is limited to the students who have completed the above preparation courses with a 2.0 grade-point average. See the section above entitled "The Prepsychology Major" for the procedures to

NOTE: For key to symbols, see pages 65 and 66

follow to enroll in the Quantitative Psychology Major.) (1) One of the following sets of courses: Public Health 100A-100B or Mathematics 150A-150B or Mathematics 152A-152B or Engineering 193A-193B; (2) All of the following courses: Psychology 110, 115, 120, 125, 135; (3) Seven additional upper division courses in Quantitative Psychology, Mathematics, Biostatistics, Computer Science, and Systems Science. Two of these courses must emphasize research methodology in Psychology.

Particular courses for the last requirement will depend on a student's needs and interests. Students will consult their adviser for prior approval of courses to meet these requirements. See the Psychology Advising Office for details.

The Psychobiology Major:

This major is an alternative to the Psychology major and is designed for students who plan to go on to postgraduate work in psychobiology or the health sciences.

Required Lower Division Courses for the Psychobiology Major. The following courses must be completed with a 2.0 in EACH course: Biology 5 and 7; Chemistry 11A-11B/BL-11C/CL, 21, 23, 25 Mathematics 3A-3B-3C or 31A-31B-32A; Philosophy 1, 3, 4, 7, 8, 9, 10, or 21; Physics 6A-6B-6C or 3A-3B-3C; Psychology 10; Psychology 41, Mathematics 50A or Economics 40 (Psychology 41 recommended).

Required Upper Division Psychobiology Major Courses. Admission to the Psychobiology Major is limited to students who have completed the above preparation courses with a 2.0 in *each* course. See the section above entitled "The Pre-Psychology Major" for the procedures to follow to enroll in the Psychobiology Major. (1) All of the following courses: Biology 129 or Psychology 118A; Psychology 100, 110, 115, 116, 120; (2) One of the following courses: Psychology 125, 127, 130, 135; (3) Four courses from the following list with the noted conditions: Psychology 117 (only *1* section may be used); Biology 107, 112, 113, 114, 115 (no more than 1 from this group); Psychology 118B, 118C, 118D, 118E, 118F, Biology 105, 110, 111, 120, 122, 134, 135, 137, 138, 139, 144, 145A-B-C, 153, 158, 166, 168, 169, 171, 172A-B, 173, 177, 179, Kinesiology 140, Chemistry 152 and Psychology M153.

Preparation for Graduate Work in Psychology

Although requirements for admission to graduate programs in Psychology in most universities will be satisfied by the above major requirements, students should realize that both admission to graduate work and progress toward the degree will be impeded in certain areas of Psychology if additional preparation is not obtained at the undergraduate level. For this reason, students who plan to do graduate work in psychology are advised to take additional work in methodology and statistics, and to take advantage of the many advanced undergraduate courses in specific fields offered both by the Psychology Department and related departments.

Students should plan to give some time to the acquisition of a reading knowledge of one or two foreign languages which might be required for the Ph.D. The Department no longer requires a foreign language except in the area of Measurement/Psychometrics; but at some other universities one or two foreign languages are required.

Consult the Psychology Undergraduate Advising Office, Franz Hall 1531, for information concerning graduate programs at other institutions; consult the Graduate Admissions Assistant, Franz Hall 1283, for information concerning the graduate program at UCLA.

Honors Program in Psychology

The Psychology Honors Program is intended to provide exceptional students with an opportunity in the junior or senior year for advanced research and study under the tutorial guidance of a member of the faculty. (For information on College Honors, see *Honors Program*, College of Letters and Science.) Honors students participate in an Honors Seminar and work toward the completion of a formal bachelor's thesis. Students whose theses are judged acceptable by the Honors Committee are awarded the degree with Honors or Highest Honors in Psychology. Interested students should consult the Psychology Advising Office early in their educational planning for further information and application forms.

Developmental Disabilities Immersion Program

The Developmental Disabilities Immersion Program is co-sponsored by the Departments of Psychology and Psychiatry, and by the Office of Experimental Educational Programs. Each year thirty undergraduates are selected for the program, which runs during the winter and spring quarters. Students participate in courses and research at Lanterman State Hospital a facility for mentally retarded citizens in Pomona, and do related field work while living together at the UCLA Experiental Learning Center nearby.

During each of the two quarters, up to twenty units of course work related to the theme of developmental disabilities are offered by nine UCLA psychiatry and psychology faculty from Lanterman State Hospital, or from the main campus. Most of the courses are in the Psychology/Psychiatry M180-181 series; courses from other departments (such as biology) may supplement these offerings. Many of the courses fulfill Psychology undergraduate major requirements.

Student individualized research projects are part of the immersion experience. Each student teams up with a research sponsor (one of the participating faculty or other Lanterman State staff members) and designs a project commensurate with the student's interests and level of research experience. Many research projects tie in to ongoing research activities at the hospital. Final project reports are published in *Pacific State Archives*, the annual journal of student research.

To supplement their academic activities, students spend eleven hours a week working with the developmentally disabled by assisting teachers in the special education classes in nearby public schools or by helping supervise at sheltered workshops. They have the opportunity to lead classes, to produce lesson plans, to devise learning activities, and to work individually with clients.

Group living intensifies the learning experience and presents increased opportunities for the development of interpersonal skills. The residential format accommodates the many extra program activities (workshops, guest lectures, etc.) related to the organizational theme of mental retardation.

Students interested in the program should contact the Psychology Advising Office or the Office of Experimental Educational Programs, 50 Dodd Hall. Freshmen are not eligible, and sophomores will be admitted only under exceptional circumstances. Applicants need not be psychology majors.

Psychology Clinic

The Psychology Clinic was established in 1949 in Franz Hall by the Department of Psychology as a training and research center in clinical psychology. It has specialized facilities for the investigation, assessment and treatment of a variety of psychological disabilities and adjustment problems of children, adolescents and adults of the greater Los Angeles community.

The Clinic provides a broad range of psychological services to clients including individual, group and family therapy, behavior modification procedures and consultation to agencies in the community. The concern of the clinic with systematic investigation leading to new knowledge and the improvement of clinical psychological procedures is in keeping with a primary function of a University-based clinic. The number and types of clients served are consonant with this goal. Apart from those investigations related directly to professional services to clients there are a number of research programs in the clinic which reflect the current interests of the staff, such as 1) communication patterns in the family constellation relevant to both the development and the amelioration of behavioral disturbance, 2) the development of innovative techniques of therapy and behavior modification which are effective in treating various psychological problems and, 3) exploration of new modes of delivering psychological services to currently unserved segments of the population.

Such service and research functions are basic to the professional education and training of clinical psychologists as an integral part of their graduate study in the Department of Psychology. The Clinic also provides training experiences to students of other mental health professions.

Fernald School

Fernald (formerly the Psychology Clinic School), a facility of the Department of Psychology, was established in 1921 as a research and training center focusing on learning problems.

The uniqueness of the facility lies in its lively experimental atmosphere, in its varied population, in the scope of its training, demonstration and research programs and in its interdisciplinary approaches in which the talents of teachers, clinical psychologists, and school counselors are integrated and brought to bear upon the student's learning difficulties. The facility's current focus is on those children with average or better intelligence who are functioning significantly below grade level in basic school skills and school achievement.

Fernald offers observation, classroom participation and intervention, research and other training opportunities to graduates and undergraduates in many fields, notably psychology and education. Fellowships are available for graduate students in psychology and education. Three courses focusing on learning disorders, Psychology 132A, lecture, 132B and 132C, laboratory, are specifically associated with the Fernald School programs. Psychology 132A provides an overview of the field of learning problems. Psychology 132B affords the University student the unique opportunity to observe and to participate under supervision in selected activities of the Fernald School. Psychology 132C allows further and more independent participation in working with learning problems.

Fernald's population includes approximately 65 students, enrolled in classroom programs, and an average of 80 children, adolescents and adults who are seen in individual and small group tutoring programs. In addition, a substantial number of individuals are seen for an initial assessment and consultation process. This process is designed to help them formulate an appropriate course of action in dealing with socio-emotional and academic concerns. The research activities, based on these populations, are directed toward an analysis of the processes mediating learning difficulties and toward an evaluation of the effectiveness of various psychological and educational programs.

Spanish Speaking Mental Health Research Center

The Spanish Speaking Mental Health Research Center (SSMHRC) was established in 1973 to conduct basic and applied research on the mental health needs of the Spanish-speaking population. Supported by the National Institute of Mental Health, the SSMHRC is one of only two centers in the United States to provide an interdisciplinary research environment for Hispanic mental health scholars, students, and professionals at the national level. The Center collects and disseminates scientific information through its Clearinghouse Division which publishes monographs, occasional papers, and bimonthly research bulletins. It also maintains a computer-based bibliographic storage and retrieval system to facilitate access to the literature in this field. The Center sponsors students in a wide variety of mental health disciplines, maintains close ties with community organizations, and promotes the increased representation of Hispanic professionals in mental health and social services.

Lower Division Courses

10. Introductory Psychology. A general introduction including the topics of learning, perception, thinking, intelligence and personality.
Mr. Collins, Mr. Holland, Mr. Houston.

15. Introductory Psychobiology. A survey of genetic, evolutionary, physiological, pharmacological and experiential factors affecting behavior. Using the comparative approach where appropriate, the relevance of biological mechanisms to an understanding of man and his interaction with his environment will be emphasized. Not intended for Psychology majors. The Physiological Staff

41. Psychological Statistics. Prerequisites: Mathematics 2. Basic statistical procedures and their application to research and practice in various areas of psychology.
Mr. Comrey, Mr. Mount, Mr. Wickens

95. Lower Division Seminars. Prerequisite: course 10. Open only to Freshmen and Sophomores. Intensive analysis in seminar situations of selected topics of current psychological interest. See the Schedule of Classes for current topics and instructors. May be repeated more than once for credit. The Staff

Upper division Courses

The following courses have only Psychology 10 as the prerequisite plus the prerequisites listed with each course: 127, 130, 132A, 132B, 134, 135, 137A, 137B, 137C, 138, 139, 148, 149, 170A, 184A-184B. For special topics courses such as 195, prerequisites will depend upon the nature of the course. The prerequisites to other upper division courses are all courses listed under the *Prepsychology Major.*

100. Research Methods in Psychology. Prerequisites: courses 10, 41. Introduction to research methods and critical analysis in psychology. Lecture and Lab topics will include: experimental and non-experimental research methods, statistical design and analysis as applied to a broad range of basic and applied research issues.
Ms. Bjork, Mr. Friedman, Mr. Thomas

102. History and Systems of Psychology. Prerequisite: senior standing or consent of the instructor. An historical and systematic analysis of psychological thought and points of view.
Mr. Maltzman, Mr. Parducci

110. Fundamentals of Learning. Prerequisite: course 41. Experimental findings on animal and human conditioning; retention and transfer of training; the relation of learning and motivation. The course is intended to provide an empirical basis for theory and research in this area.
Mr. Bjork, Mr. Garcia, Mr. Holman

111. Learning Laboratory. Prerequisite: course 41, 100, and Psychology major standing. Prerequisite or concurrent; course 110. Laboratory experience with techniques in the study of learning especially with animals. Mr. Holman

*[1]**112A. Human Learning.** Prerequisite: course 110. Acquisition, retention, and transfer of verbal and nonverbal human learning.

112B. Theories of Learning. Prerequisite: course 110. Critical discussion of the major theories in the light of experimental evidence. Mr. Padilla

*[1]**112C. Thinking.** Prerequisite: course 110. An analysis of experimental studies of problem solving, reasoning, insight, concept formation, and related topics. Mr. Mackay

*[1]**112E. Current Topics in Learning.** Prerequisite: course 110. A study of related issues in the psychology of learning. Topics will vary with the interests of the instructor and the class. May be repeated for credit with permission of the instructor. The Learning Staff

115. Physiological Psychology. Prerequisite: Biology 2 and Psychology 41. For nonpsychology majors, Biology 1A, 1B and consent of the instructor. Integrative activities, receptor and effector processes in relation to neuromuscular structure and function. Facts, problems and methods.
The Physiological Staff

116. Physiological Psychology Laboratory. Prerequisite: course 41, 100, and Psychology major standing. Prerequisite or concurrent: course 115. Laboratory experience with various topics in physiological psychology. Mr. Dearmore.

117. Seminar in Psychobiology. Prerequisite: course 115. Advanced topics in brain and behavior. May be repeated for credit with permission of instructor. Only one section of 117 may be applied as an elective on the Psychobiology major.
The Staff

118A. Comparative Psychobiology. Prerequisite: course 115. A survey of the determinants of species-specific behavior including genetic influences and learning. Mr. Arnold, Mr. Krasne

118B. Behavioral Pharmacology. Prerequisite: course 115. Experimental and theoretical treatment of drug-behavior relationships. Particular emphasis on behavior and pharmacological mechanisms of drug action and drug interaction with neuronal function; drugs as tools to investigate various behavior processes such as mood, aggression, learning and motivation, experimental studies of addiction. Mr. Butcher, Mr. Ellison

*[1]**118C. Psychophysiology of Motivation.** Prerequisite: course 115. The basic psychophysiology, including brain and endocrine mechanism, involved in the control of motivation. Discussion of homeostatic drives such as hunger and thirst and nonhomeostatic drives such as reproductive behavior will be emphasized. Mr. Novin

118D. Experimental Neuropsychology. Prerequisite: course 115. Studies the experimental analysis of higher brain functions. Special emphasis on attention, memory, perception and language.
Mr. Beatty

118E. Current Topics in Physiological Psychology. Prerequisite: course 115 or permission of instructor. Advanced topics of current interest in physiological psychology will be presented in depth. The emphasis will be in bringing students to a point where they can appreciate and evaluate current research papers on the topics covered. The course may be repeated for credit.
The Physiological Staff

M118F. Ethology: Physiology of Behavior and Learning in Animals. (Same as Psychiatry M190.) Prerequesite: consent of instructor. Basic course for undergraduate students which integrates a systematic overview of common forms of behavioral plasticity and standard training procedures in laboratory animals (in behavioral, neurophysiological and pharmacological studies) with a broad biological, evolutionary perspective.
Mr. Soltysik

120. Perception. Prerequisite: course 41. Methods and approaches to the study of perception. Experimental results, theoretical interpretations, and demonstrations. Ms. Rader, Mr. Thomas

121. Perception Laboratory. Prerequisite: course 41, 100, and Psychology major standing. Prerequisite or concurrent: course 120. Laboratory experience with various topics in perception.
Ms. Bjork, Mr. Bjork

*[1]**122. Language and Communication.** Prerequisite: course 41 or consent of the instructor. A survey of language behavior, communication and speech perception, including acquisition, sequential structure, and semantic aspects. Recent developments in linguistics, theory of information transfer, analysis and synthesis of speech. Social communication. Aphasia and speech pathology. Animal communication. Mr. Carterette

123. Psycholinguistics. A survey of current theory and research in psycholinguistics: the description of language in generative grammars; the acquisition of language by children; experiments on speech recognition, production and comprehension; errors in speech perception and production; speech physiology and pathology. The Staff

124A. Current Topics in Perception. Prerequisite: course 120. Advanced consideration of special topics in perception. May be repeated for credit with consent of the instructor. Mr. MacKay

124B. Current Topics in Psycholinguistics. Prerequisites: Psychology 123. Advanced consideration of special topics in the psychology of language. May be repeated for credit with consent of instructor.
Mr. MacKay

125. Personality. Prerequisite: course 41. A survey of the major topics in the field of personality, including personality theory, personality assessment, and the physiological, behavioral and cultural role of perception, learning and motivation in personality. Mr. Abramson

*[1]**126. Personality Laboratory.** Prerequisite: course 41, 100, and Psychology major standing. Prerequisite or concurrently with special permission: course 125. Laboratory experience with various topics in personality.

127. Abnormal Psychology. Study of the dynamics and prevention of abnormal behavior, including neuroses, psychoses, character disorders, psychosomatic reactions and other abnormal personality patterns.
Mr. Baker, Mr. Goldstein, Ms. Henker

*[1]**129A. Personality Measurement.** Prerequisite: course 125. The rationale, methods and content of studies dealing with the problems of describing persons in terms of a limited set of dimensions. Detailed consideration of research literature dealing with a few representative personality dimensions. Mr. Mehrabian

129B. Personality Dynamics. Prerequisite: course 125. Detailed conceptual examination of one or two areas of personality in which the main and interactive effects of personality and situational variables have been investigated. Personality as related to the study of psychological processes, particularly motivation. Includes an examination of current research literature. Mr. Weiner

*[1]**129C. Personality and Cognition.** Prerequisite: course 125. Theoretical and experimental analyses of cognitive processes such as imagery, attention, language and memory and their implication for theories of personality. Mr. Weiner

129D. Special Topics in Personality. Prerequisite: course 125. Study of selected topics in the psychology of personality. Topics will vary with the interests of instructor and class. May be repeated for credit by consent of instructor.
Personality Staff

130. Developmental Psychology. An elaboration of the developmental aspects of physical, mental, social, and emotional growth from birth to adolescence.
Ms. Greenfield, Mr. Padilla, Mr. Madsen

131A-131B. Fieldwork in Child Psychopathology. Prerequisites: course 133B or equivalent; course 170A or equivalent; experience with problem children, or consent of instructor. This course is designed to give undergraduate psychology students an opportunity to apply their knowledge in working with problem children including autistic, retarded, and school or behavior problem children. Experiences given in a variety of community agencies. There will be two four-hour sessions per week.
The Staff

132A. Learning Disabilities. (1 to 1¼ courses) Prerequisite: upper division standing. Exploration of different orientations to persons with learning problems, emphasizing assessment and intervention approaches and the psychological impact of such approaches. Topics include the interaction of learner and environment, the socio-political nature of the classroom, the psychological impact of schooling, grades, and evaluations, process vs. goal focus in learning. The course may be taken for 4 or 5 units. The 5th unit is devoted to practicum experiences involving the Fernald School. All students planning to enroll subsequently in Psychology 132B must take the 5th unit option. Where possible, it is recommended that the course be taken on a passed/not passed basis. Mr. Adelman

NOTE: For key to symbols, see pages 65 and 66

132B. Learning Disabilities Laboratory. Prerequisites: 5 units of course 132A, course 100, and consent of instructor. Participation in special activities at the Fernald School is made available to University students to further explore by means of a laboratory experience the topics and issues discussed in 132A. The emphasis is on experiencing and evaluating the psychological and educational impact of research, training and service programs on learners, teachers, etc. Since a limited number of students can be accommodated, clarification of available alternatives and agreements regarding participations will be worked out during the fifth unit experience in Psychology 132A. A commitment of eight and a half hours per week is expected (1½ hour meeting plus 7 hours of activity). Where possible it is recommended that the course be taken on a passed/not passed basis. Fernald Staff

132C. Learning Disabilities Advanced Laboratory. Prerequisites: courses 132A and 132B plus consent of instructor. A personalized laboratory participation experience designed to allow the advanced student to explore relevant topics in depth. Fernald Staff

*†**133A. Adolescence.** Prerequisite: course 130 and upper division standing. The physical, psychological and social development of the adolescent.

*†**133B. Exceptional Children.** Prerequisite: course 130. Study of the issues and research problems in the areas of mental retardation, giftedness, learning disorders, emotional disorders and childhood psychosis. The Staff

133C. Psychological Development in the Adult Years. Prerequisite: course 130 or consent of the instructor. Theory and research on changes in motivation, aptitudes and abilities as related to genetics, age, sex and socio-cultural variables. Mr. Jones

*†**133D. Psychological Development of the Minority Child.** Prerequisites: courses 127, 130, upper division Psychology standing and consent of the instructor. An examination of the theoretical issues and research problems relating to the development of minority children. Topics will include intelligence, identity, survival skills, family structure and community development. Mr. Myers

133E. Current Issues in Developmental Psychology. Prerequisite: course 130 and upper division Psychology standing. A critical examination of current issues in developmental psychology. The specific issues of concern will vary depending on the interests of the class and instructor. May be repeated with permission of the instructor. Mr. Madsen

*†**134. Psychology and Education.** Prerequisites: course 130. Application of principles of cognitive development, learning and perception to educational problems; topics will include general instructional issues, psychology of reading and mathematics, exceptional children, early childhood education, and education of the disadvantaged. Mr. Jeffrey

135. Social Psychology. Prerequisite: course 41. The interrelationships between the individual and his social environment. Social influences upon motivation, perception and behavior. The development and change of attitudes and opinions. Psychological analysis of small groups, social stratification and mass phenomena. Ms. Peplau, Mr. Raven, Mr. Sears

136A. Social Psychology Laboratory. Prerequisite: course 41, 100, and Psychology major standing. Prerequisite or concurrent: course 135. Laboratory experience with such topics as small group behavior, attitude measurement, and interpersonal influence. Ms. Gutek, Mr. Kelley, Mr. Shure

136B. Survey Methods in Psychology. Prerequisite: course 100, 135, and Psychology major standing. The nature of attitudes and opinions, and their measurement by means of attitude scales and public opinion surveys. Class projects and fieldwork. Concurrently scheduled with Psychology 223. Ms. Gutek

137A. Group Behavior. Prerequisite: course 135. Psychology of interdependence, group membership, leadership, and social influence. Mr. Kelley

137B. Attitude Formation and Change. Prerequisite: course 135. Effects of propaganda, personal influence, socialization and social structure on private attitudes and public opinion. Mr. Gerard

137D. Special Topics in Social Psychology. Prerequisite: course 135. Study of selected topics in social psychology. May be repeated for credit with permission of the instructor. Ms. Peplau, Mr. Raven, Mr. Shure

M137E. Work Behavior of Women and Men. (Same as Women's Studies M137E.) Prerequisites: Psychology 10 or Women's Studies 100 and junior or senior standing. Examination of work behavior of men, and especially women. Covers such topics as antecedents of career choice, job finding, leadership, performance evaluation, discrimination and evaluation bias, job satisfaction and interdependence of work and family roles. Ms. Gutek

137F. Interpersonal Relations. Prerequisites: course 135, consent of instructor. A study of the psychological facts, principles, problems and theories concerned with interactions and relationships between persons. Focus is upon such phenomena as interpersonal attraction, exchange, aggression, conflict, control, power relations, and the initiation, development and dissolution of relationships. Mr. Centers

M138. Political Psychology. (Same as Political Science M140.) Prerequisite: course 10. Examination of political behavior, political socialization, personality and politics, racial conflict, and the psychological analysis of public opinion on these issues. Mr. Sears

139. Psychology of Social Issues. Prerequisite: course 10. An analysis of the contribution of current psychological theory and research to the understanding of selected historical, social and political problems. Mr. Fairchild

142. Advanced Statistical Methods in Psychology. Prerequisite: course 41. Chi square, special correlation methods, multiple regression, non-parametric methods, analysis of variance, reliability and validity. Mr. Nihira

143. Foundations of Psychological Investigation. Prerequisite: course 41, 100, and Psychology major standing. Outline and examination of concepts associated with psychological investigation and the interpretation of results. Readings, discussions and reports, individual and class projects. Mr. Mount

144. Psychological Tests and Evaluation. Prerequisite: course 41. Further study of the principles of measurement, stressing basic concepts. Application to problems of test construction, administration and interpretation. Mr. Broen

148. Industrial and Organizational Psychology. Introduction to the applications of psychology in industrial and other organizations. Mr. Barthol

*†**149. Problems in Human Relations.** Understanding human relations problems and developing skills in interpersonal relations. Topics include the effective use of human resources; group management and leadership skills; interviewing, counseling, and conference techniques. Mr. Barthol

*†**150. Mathematical Models in Psychology.** Prerequisites: Mathematics 3C or 31C, Engineering 10, or consent of the instructor. Review of theoretical models and the experimental evidence for these models in various areas of Psychology. Topics will include: mathematical computer models of learning, perception, cognition and personality. Recommended for Quantitative Psychology Majors. Mr. Holman, Mr. Wickens

*†**151. Computer Applications in Psychology.** Prerequisite: Engineering 10 and consent of the instructor. Topics will include hardware and software computer problems in the deisgn, control, and analysis of experiments; programming problems arising in the evaluation of models of psychological processes of the various content areas such as learning, perception, social, personality, and clinical. Recommended for Quantitative Psychology Majors. Mr. Carterette

M153. Principles of Biotechnology. (Same as Engineering M107A.) Prerequisite: third quarter sophomore or higher standing. The principles of biological science are developed in an engineering context. An emphasis is placed on how physiological, psychological, and sociological factors affect the integration of man into environmental, informational and managerial systems by engineering means. Mr. Lyman

*†**M155. A Laboratory for Naturalistic Observations: Developing Skills and Techniques.** (Same as Anthropology M176 and Psychiatry M112.) Prerequisite: consent of instructor. The skill of observing and recording behavior in natural settings will be taught, emphasizing field training and practice in observing behavior. Group and individual projects will be included. Some of the uses of observations and their implications for research in the social sciences will also be discussed. Mr. Gallimore, Mr. Turner, Mr. Weisner

162. The Psychological Approaches of Henry Murray; The Study of Biography. Prerequisite: consent of the instructor. The study of lives and the personality theory of Henry Murray, touching upon autobiographical writings and biographical materials; and personality as a dynamic system of growth and change. Creative, proactive, normal and supernormal aspects of personality; the roles of values in the study of personality, society and culture. Mr. Shneidman

M163. Death and Suicide: Psychological and Sociological Aspects. (Same as Sociology M158.) The definition and taxonomy of death; the new permissiveness and taboos relating to death; the romanticization of death; the role of the individual in his own demise; the modes of death; development of ideas of death through the life span; ways in which ideas of death influence the conduct of lives; the impact of dying on the social structure surrounding the individual; preventive, interventive and postventive practices in relation to death and suicide; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultures. Junior standing required. This course is offered on both a passed/not passed and letter grade basis. However, the instructor prefers that students selected the passed/not passed option. Mr. Shneidman

M165. The Psychology of Sex Differences. (Same as Women's Studies M165.) This course considers psychological literature relevant to understanding contemporary sex differences. Some topics included are sex-role development and role conflict, physiological and personality differences between men and women, sex differences in intellectual abilities and achievement, and the impact of gender on social interaction. Ms. Peplau

*†**168. Environmental Psychology.** Prerequisites: course 41 and 125. A research-oriented course which surveys theoretical and methodological issues which comprise the area of environmental psychology. Discussion of basic dimensions of emotional response to physical and social environments, measurement of information of rate of situations, and personality variables that are relevant to environmental theory. Residential, therapeutic, work and recreational environments will be considered within a unified framework. Mr. Mehrabian

170A. Behavior Modification. Prerequisite: upper division standing. Applied behavior theory; a study of the application of principles derived from learning theory, especially modelling and reinforcement, to behavior problems of retarded and autistic children, adult psychotic disorders, reading disorders, etc. Lectures, discussions and demonstrations. Mr. Lovaas

170B. Fieldwork in Behavior Modification. Prerequisites: courses 100, 170A. Junior or Senior Psychology Major standing and consent of instructor. Advanced discussion and fieldwork in Applied Behavior Theory; especially to problems of retarded and autistic children, adult psychotic disorders, etc.

Two hours discussion and eight hours fieldwork per week. May be repeated once for credit.
Mr. Lovaas

173. The Interview: Scientific and Professional Issues. For students who will conduct interviews or do consultation in their professional or scientific careers. Surveys literature and teaches basic performance skills pertinent to the process of special conversations i.e., therapy sessions, standardized interviews, and consultation (legal, medical, educational, business, and pastoral). Mr. Goodman

174. Interpersonal Process Analysis. Prerequisites: course 41, 100, 127, and Junior and Senior Psychology Major standing. An introduction to the conceptual tools for analyzing interpersonal structures and functions in goal-oriented human interaction such as psychotherapy, persuasion, courtship, etc. Class sessions will integrate small group exercises with lecture and discussion. Additional laboratory work to be arranged.
Mr. Goodman

*†175. **Community Psychology.** Prerequisites: Junior or Senior Psychology Major standing and consent of the instructor. The application of psychological principles to the understanding and solution of community problems. Topics will include community development, community mental health problems, drugs, racism, and rehabilitation of prisoners. The Staff

176. Experimental Community Psychology. Prerequisites: course 100, 127 and consent of the instructor. Examination and experimental application of concepts drawn from interpersonal and community psychology for understanding the behavior of individuals in structured social systems (communities, schools, mental hospitals, prisons, etc.).
Mr. Myers

177. Counseling Relationships. Prerequisite: Junior or Senior Psychology major standing or consent of the instructor with the following prerequisites: courses 10, 41, 127, and junior or senior standing. The course examines conceptual and empirical foundations of psychological counseling and compares alternative models of counseling processes. Emphasis is on counseling approaches in community mental health areas such as drug abuse, suicide prevention, and crisis intervention.
Ms. Henker and the Staff

178. Human Motivation. Prerequisite: upper division standing required. Examination of current theories of human motivation, the experimental findings supporting the theories, and their applied value. Motivation in the classroom will be emphasized, particularly the effects of success and failure on performance. Other topics include stress, conflict, frustration, and perceptions of control.
Mr. Weiner

M180A. Contemporary Problems in Mental Retardation. (Same as Psychiatry M180A.) Prerequisites: Psychology 10, 41, and 127 or 130, and enrollment in Immersion Program. Presentation of the concepts, issues and research techniques in the area of mental retardation. Biological, psychological and community questions concerning the causes and treatment of development disabilities as well as systems for the care and training of retarded individuals will be explored. Lectures, directed reading and discussion. To to taken concurrently with Fieldwork in Contemporary Problems in Mental Retardation. Mr. Fluharty and the Staff

M180B. Contemporary Issues in Mental Retardation. (Same as Psychiatry M180B.) Prerequisites: Psychology M180A and enrollment in Immersion Program. Psycho-educational issues in mental retardation, relating literature to ongoing field experiences through lectures, discussion, media and 6 student papers. Mr. Baker

M181A-181B. Research in Contemporary Problems in Mental Retardation. (Same as Psychiatry M181A-181B.) Prerequisite: concurrent enrollment in Psychology M180A-180B. Fieldwork experience to be taken concurrently with Contemporary Problems in Mental Retardation.
Mr. Fluharty and the Staff

M182A. Advanced Statistical Methods in Mental Retardation. (Same as Psychiatry M182A.) Prerequisites: Psychology 41 and enrollment in Immersion Program. Introduction of Statistical method and design in experimentation principles of statistical inference and appropriate testing methods. An introduction to the use of computers and various software packages is presented.
Mr. Eyman, Mr. Silverstein

M182B. Advanced Design and Statistics. (Same as Psychiatry M182B.) Prerequisite: Psychology M182A. Continuation of Psychology M182A.
Mr. Eyman, Mr. Sylverstein

M182C. Perception. (Same as Psychiatry M182C.) Prerequisite: enrollment in Immersion Program. Human information processing, both physical and psychological with special emphasis on pathologies in the mentally retarded. Mr. Galbraith

M182D. Current Issues in Mental Retardation. (Same as Psychiatry M182D.) Prerequisite: enrollment in Immersion Program. Advanced topics in mental retardation. May be repeated for credit with permission of instructor. The Staff

184A. Communication Disorders. Prerequisite: junior or senior standing. A clinical approach to speech problems with emphasis on stuttering and neurological disorders and their treatment.
Mr. Sheehan

*†**184B. Laboratory in Communication Disorders.** Prerequisite: consent of the instructor. Discussion, observation and supervised small group experience with stuttering and related problems in Psychology Speech Clinic. Mr. Sheehan

190A-190B-190C. Honors Course. Prerequisite: acceptance by departmental Honors Committee. Opportunity for the development and analysis of creative ideas through conceptual or experimental research and their implementation by experimental research. Information and applications may be obtained from the Psychology Undergraduate Advising Office. (For further information, see Honors Program in Psychology.) Mr. Mount

195. Current Issues in Psychology. Prerequisite: Junior or Senior Psychology Major standing. Some sections may require permission of instructor. A study of selected current topics of psychological interest. See Schedule of Classes for topics and instructors to be offered each quarter. This course may be repeated for credit, and may apply as elective units on the Psychology major. This course may not apply as an elective on the Psychobiology major. The Staff

199. Directed Individual Research and Study. Prerequisites: senior Psychology Major standing or junior Psychology Major standing with at least a 3.0 grade point average in the major, consent of the instructor and the Vice Chairman for Undergraduate Affairs. To be arranged with individual faculty members. Consent is based on a written proposal outlining the proposed course of study. Students should consult the Psychology Undergraduate Advising Office, Franz Hall 1531A, for further information and approval forms. Note the following regulations concerning 199 courses: A student may take only one 4 unit 199 course in Psychology per quarter. Only 4 units of 199 may be applied toward the Psychology Major elective course requirement. Only one Psychology 199 course may be taken for a letter grade: additional Psychology 199 courses may be taken in the Department.
The Staff

300. Practicum in the Teaching of Psychology. Prerequisites: upper division Psychology major and consent of instructor. Training and supervised practicum for advanced undergraduates in the teaching of Psychology. Students will serve as junior teaching assistants, assist in the preparation of materials and the development of innovative programs. This course may be repeated once for credit, and is offered on a passed/not passed basis.

350. Fieldwork in Psychology. Prerequisite: sophomore pre-psychology or psychology major standing and permission of instructor. Fieldwork in applications of psychology. Students must spend two hours in a weekly seminar and six hours per week working in approved community settings. The Undergraduate Curriculum Development Office, 1531B Franz Hall, should be consulted for application forms and further information. P/NP grading only. May be repeated once for credit.
Mr. Friedman

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

PUBLIC HEALTH

(Department Office, 16-035 School of Public Health)

Abdelmonen A. Afifi, Ph.D., *Professor of Biostatistics and Biomathematics.*
Roslyn B. Alfin-Slater, Ph.D., *Professor of Nutrition and Biological Chemistry.*
Rolando Armijo, M.D., M.P.H., *Professor of Epidemiology in Residence.*
Lawrence R. Ash, Ph.D., *Professor of Public Health.*
A. Ralph Barr, Sc.D., *Professor of Public Health.*
Judith Blake, Ph.D., *Fred H. Bixby Professor of Population Policy and Sociology.*
Lester Breslow, M.D., M.P.H., *Professor of Public Health.*
Virginia A. Clark, Ph.D., *Professor of Biostatistics and Biomathematics.*
Irvin Cushner, M.D., M.P.H., *Professor of Obstetrics and Gynecology and Public Health.*
Roger Detels, M.D., M.S., *Professor of Epidemiology.*
Olive Jean Dunn, Ph.D., *Professor of Biostatistics and Biomathematics.*
Jonathan E. Fielding, M.D., M.P.H., *Professor of Pediatrics and Public Health.*
Carl E. Hopkins, Ph.D., M.P.H., *Professor of Public Health.*
Derrick B. Jelliffe, M.D., D.T.M.&H., D.C.H., F.R.C.P., *Professor of Public Health and Pediatrics.*
Snehendu B. Kar, Ph.D., *Professor of Public Health.*
Alfred H. Katz, M.A., D.S.W., *Professor of Public Health and Social Welfare.*
Robert A. Mah, Ph.D., *Professor of Environmental Sciences.*
Frank J. Massey, Jr., Ph.D., *Professor of Biostatistics and Biomathematics.*
Alfred K. Neumann, M.A., M.D., M.P.H., F.A.B.P.M., *Professor of Public Health.*
Edward L. Rada, Ph.D., *Professor of Economics in Public Health.*
Milton I. Roemer, M.D., M.P.H., *Professor of Public Health.*
John F. Schacher, Ph.D., *Professor of Public Health in Residence.*
Elizabeth Stern, M.D., *Professor of Public Health in Residence.*
Marian E. Swendseid, Ph.D., *Professor of Nutrition and Biological Chemistry.*
Paul R. Torrens, M.D., M.P.H., *Professor of Public Health.*
Daniel M. Wilner, Ph.D., *Professor of Public Health.*
Telford H. Work, M.D., M.P.H., D.T.M.&H., *Professor of Infectious and Tropical Diseases and Microbiology and Immunology.*
Ruth Boak, Ph.D., M.D., *Professor of Microbiology and Immunology, Pediatrics and Public Health Emeritus.*
John M. Chapman, M.D., M.P.H., *Professor of Epidemiology Emeritus.*
Gladys A. Emerson, Ph.D., *Professor of Nutrition Emeritus.*
Raymond J. Jessen, Ph.D., *Professor of Management and Public Health Emeritus.*
Edward B. Johns, Ed.D., *Professor of Health Education Emeritus.*
John F. Kessel, Ph.D., *Professor of Infectious Diseases Emeritus.*
John W. Knutson, D.D.S. Dr.P.H., *Professor of Preventive Dentistry and Public Health Emeritus.*
Florence C. McGucken, M.S., *Lecturer in Nutrition Retired.*
Frank F. Tallman, M.D., *Professor of Psychiatry and Public Health Emeritus.*
Emil Berkanovic, Ph.D., *Associate Professor of Public Health.*
Linda B. Bourque, Ph.D., *Associate Professor of Public Health.*
Potter C. Chang, Ph.D., *Associate Professor of Biostatistics.*
Michael S. Goldstein, Ph.D., *Associate Professor of Public Health and Sociology.*
Sheldon Greenfield, M.D., *Associate Professor of Medicine and Public Health.*
Isabelle F. Hunt, M.P.H., Dr. P.H., *Associate Professor of Nutrition.*
Mohammad G. Mustafa, Ph.D., *Associate Professor of Public Health and Medicine.*
Raymond R. Neutra, M.D., C.M., M.P.H., Dr.P.H., *Associate Professor of Medicine and Public Health.*
Dennis D. Pointer, Ph.D., *Associate Professor of Public Health.*
Stuart O. Schweitzer, Ph.D., *Associate Professor of Public Health.*
William Shonick, Ph.D., *Associate Professor of Public Health.*
Richard E. Brown, Ph.D., *Assistant Professor of Public Health.*

NOTE: For key to symbols, see pages 65 and 66

James M. Cameron, Ph.D., *Assistant Professor of Public Health.*
Joseph S. Coyne, Ph.D., *Assistant Professor of Public Health.*
Shan Cretin, M.P.H., Ph.D., *Assistant Professor of Public Health.*
William G. Cumberland, Ph.D., *Assistant Professor of Biostatistics.*
Brian G. Danahar, Ph.D., *Assistant Professor of Public Health.*
Climis A. Davos, Ph.D., *Assistant Professor of Public Health.*
Curtis D. Eckert, Ph.D., *Assistant Professor of Public Health.*
Ralph R. Frerichs, D.V.M., M.P.H., Dr.P.H., *Assistant Professor of Epidemiology.*
Martin B. Ross, Dr.P.H., *Assistant Professor of Public Health.*
Susan Scrimshaw, Ph.D., *Assistant Professor of Public Health.*
Gary H. Spivey, M.D., M.P.H., *Assistant Professor of Epidemiology.*
Jane Valentine, Ph.D., *Assistant Professor of Public Health.*
Barbara R. Visscher, M.D., Dr.P.H., *Assistant Professor of Epidemiology in Residence.*
William N. Washington, M.P.H., D.P.A., *Assistant Professor of Health Education.*

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Lilla Aftergood, Ph.D., *Associate Research Biochemist.*
Nancy H. Allen, M.P.H., *Lecturer in Public Health.*
Fanny Rosenzuaig Armijo, M.D., M.P.H., *Lecturer in Public Health.*
Arnold R. Beisser, M.D., *Lecturer in Public Health and Associate Clinical Professor of Psychiatry.*
Stewart N. Blumenfeld, Dr.P.H., *Researcher and Lecturer in Public Health.*
Michael L. Bobrow, B.Arch., *Lecturer in Architecture and Urban Design and Public Health.*
Richard E. Brannin, M.S., M.A., *Lecturer in Public Health.*
Robert H. Brook, M.D., Sc.D., *Associate Professor of Medicine and Public Health.*
Harold V. Brown, M.P.H., Dr.P.H., *Lecturer in Public Health.*
Marianne P. Brown, M.P.H., *Lecturer in Public Health.*
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Emile Gauvreau, M.P.H., *Lecturer in Public Health.*
Bruce S. Gillis, M.D., M.P.H., *Adjunct Assistant Professor of Public Health.*
Robert D. Girard, L.L.B., *Lecturer in Public Health.*
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Sydney M. Harvey, M.S., Ph.D., *Adjunct Assistant Professor of Public Health.*
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J. Robert Liset, L.L.B., *Lecturer in Public Health.*
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Louis E. Mahoney, Jr., M.D., M.P.H., *Adjunct Associate Professor of Public Health.*
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Eric J. McLaughlin, *Assistant Professor of Public Health in Residence.*
James F. Mead, Ph.D., *Professor of Biological Chemistry and Public Health.*
Jean L. Mickey, Ph.D., *Lecturer in Biostatistics.*
Norma J. Murphy, M.S., *Assistant Field Program Supervisor in Public Health.*
Mohammad G. Mustafa, Ph.D., *Associate Professor of Medicine and Public Health in Residence.*
Charlotte G. Neumann, M.D., M.P.H., *Lecturer in Public Health and Pediatrics and Associate Researcher in Public Health.*
Joseph P. Newhouse, Ph.D., *Lecturer in Public Health.*
David D. Nicholas, M.D., M.P.H., *Researcher and Lecturer in Public Health.*
Edward J. O'Neill, M.D., M.P.H., *Adjunct Assistant Professor of Public Health.*
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Jose Quiroga, M.D., *Associate Researcher in Public Health.*
Ruth F. Richards, B.S., M.A., M.P.H., *Associate Field Program Supervisor and Lecturer in Public Health.*
Ruth J. Roemer, J.D., *Lecturer and Researcher in Public Health.*
Stanley N. Rokaw, M.D., *Researcher in Public Health and Clinical Professor of Medicine.*
Frederick T. Sai, M.B.B.S., D.T.M.&H., M.R.C.P., M.P.H., *Lecturer in Public Health.*
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Grant G. Slater, Ph.D., *Associate Research Biological Chemist in Public Health and Psychiatry.*
Dina S. Stolman, M.S.P.H., *Lecturer in Public Health.*
Forest Tennant, M.D., M.P.H., Dr.P.H., *Adjunct Assistant Professor of Epidemiology.*
Leo Tepper, M.D., M.P.H., *Lecturer in Public Health.*
J. Albert Torribio, M.S.S.W., M.S.W., *Lecturer in Health Education.*
Stephen L. Volla, M.P.H., *Lecturer in Public Health.*
John E. Ware, Ph.D., *Lecturer in Public Health.*
Lawrence G. Wayne, Ph.D., *Lecturer in Public Health.*
Paul F. Wehrle, M.D., *Lecturer in Epidemiology.*
Adrienne P. Zeigler, M.P.H., *Lecturer in Public Health.*
Jack Zusman, M.D., M.P.H., *Adjunct Professor of Public Health.*

Lower Division Courses

18. Principles of Healthful Living. Lecture, four hours. Analysis of health care issues as related to the health care consumer and the health care delivery system. Includes identification of health needs, and clarification of personal responsibilities for health. Ms. Richards

Upper Division Courses

100A. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: upper division standing and course in biological or physical sciences. Students who have completed courses in statistics may enroll only with consent of instructor. Introduction to methods and concepts of statistical analysis. Sampling situations with special attention to those occurring in the biological sciences. Topics include: distributions, tests of hypotheses, estimation, types of error, significance and confidence levels, sample size. Students may not receive credit for this course and Public Health 101A. The Staff

100B. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: course 100A or equivalent and consent of instructor. Introduction to analysis of variance, linear regression, and correlation analysis. Students may not receive credit for this course and course 101B. The Staff

100C. Introduction to Biostatistics. Lecture, three hours; laboratory/quiz, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Design of experiments, analysis of variance, multiple and polynomial regression analysis with biomedical applications. The Staff

100D. Introduction to Biostatistics. Lecture, three hours; laboratory, two hours. Prerequisites: course 100B or equivalent and consent of instructor. Introduction to concepts of probability used in biomedical sciences. Enumeration statistics and non-parametric methods. Comparison of non-parametric with analogous parametric tests. Discussion of power and sample size. The Staff

101A. Basic Biostatistics. Lecture, three hours; quiz, one hour. Prerequisites: Mathematics 31C or equivalent. Basic concepts of statistical analysis applied to biological sciences. Topics include random variables, sampling distributions, parameter estimator, statistical inference. Students may not receive credit for this course and Public Health 100A. The Staff

101B. Basic Biostatistics. Lecture, three hours, quiz, one hour. Prerequisite: course 101A. Topics include elementary analysis of variance, simple linear regression and correlation, non-parametric methods, elements of sequential analysis. Students may not receive credit for this course and Public Health 100B. The Staff

102. Demography: Introduction to Demographic Materials and Methods. Lecture, three hours; laboratory, two hours. Prerequisite: course 100A. Sources of demographic information; description of human populations; calculation and interpretation of statistics used to measure and describe population growth, structure, geographic distribution, mortality, natality and migration. Ms. Mickey

103. Statistics for Public Health. Lecture, three hours; laboratory, two hours. Prerequisites: upper division standing and a course in biological or physical sciences. Introduction to sources of demographic and health information, methods of calculating and interpreting vital and health statistics, and elementary methods for statistical inference. Open to students in MPH and nursing programs; not satisfactory as prerequisite for course 100B. The Staff

104. Principles of Sampling. Lecture, three hours; discussion, one hour. Prerequisites: PH 100A or equivalent and consent of instructor. Statistical aspects of the design and implementation of a sample survey. Techniques for the analysis of the data including estimates and standard errors. Avoiding improper use of survey data. Mr. Cumberland

110. Introduction to Medical Science. Lecture, four hours. Prerequisites: one course in chemistry or other natural science. One year sequence in biology, physiology or other biological science recommended. An introduction to normal human physiology and disease processes. The Staff

111. Human Disease and Public Health. Lecture, three hours; discussion, three hours. Prerequisites: upper division standing and one course in biological or physical science. Study of the mechanisms underlying human diseases, disorders and defects including genetic, mental, social, environmental, infectious, nutritional and degenerative and their public health implications. Mr. Schacher

112. Principles of Epidemiology. Lecture, two hours; laboratory, four hours. Prerequisite: course 110 or 111. Introduction to epidemiology including factors governing health and disease in populations. The Staff

113. Infectious Diseases and Public Health. Lecture, three hours. Prerequisites: upper division standing and one course in biological or physical science. Infectious diseases of public health importance emphasizing modes of transmissions and control of etiologic agents. Mr. Schacher

M115. Disease Problems of Socio-Economic and Political Impact in Latin America. (Same as Latin American Studies M155; formerly numbered M155.) Lecture, six hours; discussion, six hours. Prerequisite: one upper division course in Latin American Studies Program. Social, economic, and political impact of important disease problems in Latin American countries. Mr. Work

116. Epidemiology of Nosocomial Infections. Prerequisites: course 112 or Microbiology 110 and consent of instructor. An introduction to the epidemiology of hospital acquired bacterial, fungal, and viral infections. The Staff

130. Health Services Organization. Lecture, four hours. Prerequisites: four units of social sciences. Structure and function of American health care system; issues and forces shaping its future. Mr. Torrens

131. Structure and Function of Health Care Facilities. Lecture, two hours; discussion, two hours. Prerequisites: course 130 (may be taken concurrently) and consent of instructor. Introduction to structure, organization and function of health care facilities. Mr. Ross

132. Hospitals and their Management. Lecture, four hours. Prerequisite: one course in Social Sciences. Introduction to structure and organization of hospitals; hospital industry and its environment, managerial processes in hospitals, and major issues confronting hospital industry. Mr. Ross

133. Interpersonal Dynamics in Health Services Management. (½ course) Lecture, two hours. Prerequisites: one undergraduate course in sociology or psychology and consent of instructor. An introduction to the application of behavioral science theory to understanding the interpersonal dynamics of health care facilities and their management. Mr. Pointer

134. Introduction to Comprehensive Health Planning. Lecture, four hours; field work, four hours. Prerequisites: one upper division course in microeconomics, statistics, calculus, or political science. Concepts underlying health planning, state of the art and some relevant literature. The Staff

M135. Organization of Medical Practice. (½ course.) (Same as Medicine M158; formerly numbered M158.) Lecture, two hours. Prerequisites: course 130 and graduate standing in Public Health, Medicine, or Nursing. Education and certification of medical practitioners. Organization of medical practice: solo, group, HMO. Doctor-patient relationships, medical ethics, economics, professional liability, health care evaluations. Mr. Goodman

136A. Introduction to Health Services Research. Lecture, four hours. Prerequisites: prior or concurrent enrollment in course 100A and 110, or equivalent and consent of instructor. Review of the field of health services research. Uses of quantitative methods and the applications of conceptual-theoretical constructs (as well as methodologies) from social and behavioral sciences and epidemiology to studies of the workings of health services. Mr. Lewis

136B. Practices of Evaluation in Health Services: Theory and Methodology. Lecture, four hours. Prerequisites: 136A or equivalent and consent of instructor. Introduction to health services evaluation. Examine and perform specific evaluation procedures. Conduct health services investigations and evaluations, and communicate results and methodologies. Ms. Fink, Ms. Kosecoff

138. Politics of Health Care. Lecture, four hours. Prerequisites: one course in social science and consent of instructor. Concepts and procedures for political analysis; national, state and local politics in health care; examination of selected case studies. Mr. Cameron

139. Quantitative Methods for Decision-making in Health Services. Lecture, four hours. Prerequisites: course 100A, 110, 130, and consent of instructor. Decision theory and use of statistics in decision-making. Decision theory includes: frameworks for decision-making and control, decision under uncertainty, utility theory, Bayes' theorem, and value of information. Statistical topics include: communicating with statistics, measures of association, regression, analysis of variance, and forecasting. Ms. Cretin

140A-140B. Health Record Science. Lecture, two hours; laboratory, three hours. Prerequisites: Biology 5 or equivalent and consent of instructor. A is required for B. Principles and theories of systems and techniques used for organization, analysis, and maintenance of records and reports are studied and evaluated according to their use in varied situations. Ms. Johnson

141. Financial and Managerial Accounting for Health Services Organizations. Prerequisites: PH 130 or equivalent and consent of instructor. An introduction to financial and managerial accounting and its application to the health services industry. Mr. Coyne

142. Health Care Issues in International Perspective. Lecture, four hours. Prerequisites: course 130, another course in health administration, two upper division courses in social sciences. Analysis of crucial issues in health care; manpower policy, economic support, health facilities, patterns of health service delivery, regulation, planning and other aspects of health care systems are probed in the settings of European welfare states, developing nations, and socialist countries. Mr. Roemer

150. Environmental Health. Lecture, three hours, field work, one hour. Prerequisites: Chemistry 11A, Biology 5, Mathematics 3A, Physics 3A or 6A. Broad coverage of environmental health with particular reference to water quality, air quality, noise, food, housing, radiation, vector control, toxicology, occupational health and safety and environmental management. Ms. Valentine

152. Biological Effects of Air Pollution. Lecture, three hours; discussion one hour. Prerequisites: Biology 5 and Chemistry 11A or equivalent and consent of instructor. Survey of biological effects and assessment methods of air contaminants present in urban, industrial and occupational environments. Mr. Mustafa

153. Public Health Microbiology. Lecture, three hours; laboratory, six hours. Prerequisites: Chemistry 24, Biology 5 or equivalent, and consent of instructor. Basic principles and laboratory procedures employed in the provision of sanitary elements to the community, including food and milk, water supply and waste disposal, soil and environmental effluents. Mr. Mah

154. Environmental Management. Lecture, four hours; discussion, one hour. Prerequisites: Economics 100, Political Science 142 or 143 or equivalent, and consent of instructor. Introduction to foundations and principles of environmental management, decision-making, and evaluation of environmental policies and programs. Mr. Davos

155. Introduction to Environmental Health. (½ course.) Prerequisites: one college level course in chemistry or biology or the equivalent courses and consent of instructor. Introduction to environmental health, including coverage of sanitary principles and chronic and acute health effects of environmental contaminants. This course is not open to students specializing in environmental health. Mr. Mah

160. Principles of Food and Nutrition. (½ course) Lecture, two hours. Prerequisites: one course in biology, chemistry or physiology, and consent of instructor. Principles of nutrition and nutritional requirements for normal growth and development. Ms. Alfin-Slater

161. Nutrition and Health. (½ course) (Formerly numbered 193.) Lecture, two hours. Prerequisites: course 110 or 111 or equivalent, and consent of instructor. Basic and clinical nutrition theory and practice for students in health science curricula. Ms. Alfin–Slater, Mr. Jelliffe

162. Nutrition. Lecture, three hours. Prerequisites: organic chemistry, Biology 7 or equivalent. Metabolic aspects of carbohydrates, fats, proteins, vitamins and minerals. Dietary requirements, intake and absorption of nutrients. Ms. Hunt

163. Biologic Processes. Lecture, three hours. Prerequisites: one year of organic chemistry, Biology 7. Metabolism of carbohydrates, proteins and other nitrogen compounds, and lipids; role of hormones and enzymes in metabolism; physiological processes. Ms. Alfin–Slater,

164. Principles of Food Analysis. (½ course) Lecture, two hours; laboratory, three hours. Prerequisite: Chemistry 23. Theory and practice of quantitative methodology in the analysis of foods. Ms. Alfin–Slater

165. Clinical Nutrition Laboratory. (½ course) Discussion, one hour; laboratory, four hours. Prerequisites: course 164 or equivalent, one year organic chemistry, Biology 7. Analytical procedures for determining the various constituents of blood and urine. Mr. Eckert

166A. Therapeutic Nutrition. (½ course) Lecture, two hours. Prerequisites: courses 162, 163 or equivalent, and consent of instructor. Recent findings in the field of diet and disease and modifications made in normal diet for pathological conditions. Ms. Carlisle

166B. Therapeutic Nutrition. (½ course) Lecture, two hours. Prerequisites: course 166A and consent of instructor. Recent findings in the field of diet and disease and modifications made in normal diet for pathological conditions. Ms. Carlisle

167. Biologic Processes: Psysiology and Nutrition. Lecture, three hours. Prerequisites: course 163 and consent of instructor. Metabolism of lipids, carbohydrates and proteins; role of hormones and enzymes in metabolism; physiology processes occurring in various organs. Ms. Alfin–Slater

170. Family Health and Biosocial Development. Lecture, two hours; discussion, two hours. Prerequisites: Psychology 130 or Education 125 or Physiology 100 or equivalent, and consent of instructor. Biosocial factors related to normal human physical, intellectual and emotional growth and development from family and public health perspective. Mr. Katz

171. Child Health in the USA. Lecture, three and one-half hours; discussion, one-half hour. Prerequisites: course 170 and consent of instructor. Examination of health problems which afflict infants, children and adolescents in the USA and discussion of priorities, approaches, services and policies which exist or could be developed to deal with these problems. Ms. Neumann

172. Introduction to Reproductive Health. Lecture, two hours, discussion, two hours. Prerequisites: course 110 or equivalent and consent of instructor. Review of reproductive physiology, normal and abnormal pregnancy, family planning, male-specific and female-specific health problems including health care and psycho-social considerations. The Staff

173. Population, Ecology and Health. Lecture, four hours. Prerequisite: course 110. Introduction to major national and international aspects of current population issues. Particular attention paid to economic development, ecology, and policy conflicts as related to population growth and decline and family planning and health programs. Ms. Scrimshaw

174E. Health, Disease and Health Services in Latin America. Lecture, four hours. Prerequisites: one upper division course in Latin American Studies or course 110. Introduction to health, disease and health services in Latin America with emphasis on epidemiology, health administration, medical anthropology and nutrition. Ms. Scrimshaw

NOTE: For key to symbols, see pages 65 and 66

176. Human Sexuality and Sexual Health. Lecture, three hours; discussion, one hour. Prerequisites: two courses in behavioral and/or life sciences, and consent of instructor. Interdisciplinary review of sexual physiology and sexual behaviors is followed by consideration of pregnancy and its prevention, sexual dysfunction, and sex-transmitted disease. Psycho-social, cultural, political, and health care aspects are included. The Staff

177. Principles and Techniques of Counseling. (½ course) Lecture, one hour; discussion, one hour. Prerequisites: course 170 and one course selected from Psychology 118D, 129B, 177 or equivalent. Concepts and methods appropriate to personal counseling in clinical situations by public health workers. Analysis of counseling principles and approaches drawn from case-records, files and audio materials. The Staff

178. Legal Aspects of Family Health. (½ course) Lecture, two hours. Prerequisites: course 170 and consent of instructor. Analysis and clarification of legal issues involving family health services, including family planning, sterilization, abortion, dental care for children, battered child laws, mental hospitalization, personnel and standards for care and implementation of sound health programs. Ms. Roemer

179A. Health Problems and Programs in Africa. (½ course) Lecture, one hour; discussion, one hour. Prerequisites: one of the following: Public Health 101; History 125A, 125B, or 125C; 127A or 127B, 128A or 128B, 240N; Political Science 166A, 166B, or 166C, 250E; Anthropology 107A or 107B, 113, 208, 258, 260; Geography 112, 188, 189 or 289. Consideration of traditional beliefs about illness and treatment, factors affecting health status in Africa, major bealth probelms and some programs proposed as remedies. Mr. Blumenfeld, Mr. Nicholas

179B. African Health Sector Analysis Seminar. (½ course) Seminar, two hours. Prerequisite: course 179A (prior or concurrently). Approach is that of a multi-disciplinary team analyzing the health sector of a representative African country to determine needs and priorities for external aid. Mr. Blumenfeld, Mr. Nicholas

180. Introduction to Public Health. Lecture, four hours. Prerequisite: four units of life sciences. Principles of Public Health. Analysis of demographic, professional, organizational, fiscal, social, and research features. Covers health, mental health, environmental health and consumer protection fields. Mr. Wilner

181. Introduction to Social Research Methods in Health. Lecture, four hours; assignments, eight hours. Prerequisites: course 100A or equivalent and consent of instructor. Basic methods and techniques in designing and conducting health research using variety of methods. Includes discussions of students' own research plans. The Staff

182. Behavioral Sciences and Health. Lecture, three hours. Prerequisite: one course in social sciences. Basic concepts in behavioral sciences pertinent to health and medical care; cultural and social class variations in health status; health team and community relations; community decision-making in public health. Mr. Berkanovic, Mr. Goldstein

183. Community Health Education. Lecture, two hours; discussion, two hours. Prerequisites: one course in social science and consent of instructor. Problems of social, economic, and cultural origin as they apply to sound community organization in the public health field. Examination of health education activities of professional, voluntary, and official health agencies and analysis of their interrelationships. Mr. Washington

184. Health and Consumer Economics. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100. Upper division or graduate standing. Impact of health problems and costs on individual and family incomes and expenditures, including productivity and dependency. Mr. Rada

185. Economics of Health and Medical Care. Lecture, three hours. Prerequisites: Economics 1 and 2 or 100. Upper division or graduate standing. Demand, supply and price determinants in private and public sectors of health and medical care fields. Mr. Rada

186. The World's Population and Food. Lecture, three hours. Prerequisites: Economics 1 and 2, or 100. Upper division or graduate standing. World food sources; major food groups, human food requirements and consumption; food in developing economies; international movement of foods; interrelations of foods, population, and economic progress. Mr. Rada

187. Health Education for Teacher Credentials. (½ course) Lecture, two hours. Prerequisite: admission to the teacher education credential program. The teaching-learning process as applied to personal and community health. Content includes psychoactive drugs (alcohol, tobacco, and narcotics), human sexuality, and community health resources. Required for the California State Teaching Credential. Mr. Linder, Mr. Washington

188. Community Mental Health. Lecture, four hours. Prerequisites: one upper division course in Psychology, Sociology, or Anthropology and consent of instructor. Concepts of mental health, mental illness, prevention of mental disorders, mental health in public health programs. Public health aspects of control of mental disorders. Epidemiology, program planning and legal aspects of mental disorders. The Staff

189. Death, Suicide and Homicide: Public Health Perspective. (½ course) Lecture, two hours; field trips, outside readings and reports, one hour. Prerequisites: courses 110, 112, 182, or equivalent and consent of instructor. Identification and discussion of the role of public health in suicide and homicide prevention, thanatology and death and dying. Lectures will range from vital statistics to the role of the behavioral scientist in prevention intervention and postvention of suicide and homicide. Ms. Allen

199. Special Studies. (½ or 1 course) Prerequisite: senior standing; consent of the instructor and Department Chairman. Consent is based on a written proposal outlining the course of study. Individual guided studies under direct faculty supervision. Study to be structured by instructor and student at time of initial enrollment. Undergraduate or graduate students may enroll in only four units each academic period. Only four units may be counted toward the minimum course requirements for a master's degree. Offered on a letter graded basis. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

RADIOLOGICAL SCIENCES

(Department Office, BL-428 Center for the Health Sciences)

The department of Radiological Sciences does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

ROMANCE LINGUISTICS AND LITERATURE (INTERDEPARTMENTAL)

The department of Romance Linguistics and Literature does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

SLAVIC LANGUAGES AND LITERATURES

(Department Office, 115 Kinsey Hall)

Aleksandar Albijanić, Ph.D., *Professor of South Slavic Languages and Literatures.*
Henrik Birnbaum, Ph.D., *Professor of Slavic Languages and Literatures.*
Thomas Eekman, Ph.D., *Professor of Slavic Literatures.*
Michael S. Flier, Ph.D., *Professor of Slavic Languages and Literatures (Chairman of the Department).*
Marija Gimbutas, Ph.D., *Professor of European Archaeology.*
Kenneth E. Harper, Ph.D., *Professor of Russian Literature.*
Vladimir Markov, Ph.D., *Professor of Russian Literature.*
Michael Shapiro, Ph.D., *Professor of Russian Linguistics and Poetics.*
Dean S. Worth, Ph.D., *Professor of Slavic Languages.*
Michael Heim, Ph.D., *Associate Professor of Czech and Russian Literature.*
Peter Hodgson, Ph.D., *Associate Professor of Russian Literature.*
Rochelle Stone, Ph.D., *Associate Professor of Polish and Russian Literature.*
Alan H. Timberlake, Ph.D., *Associate Professor of Slavic Languages.*

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Edward Denzler, M.A., *Lecturer in Russian.*

Preparation for the Major

Required courses: Russian 1, 2, 3, 4, 5, 6, Slavic 99A-99B. Note: courses Russian 119 and 120A-120B may be taken in the sophomore year.

The Major

Required courses: Russian 101A-101B-101C, 111A-111B-111C, 119, 120A-120B, 121, 122, 123; three courses chosen from Russian 130A-130B-130C, 134, 140A-140D, 150; one course chosen from Russian 124A-124F, or 126; and any two electives chosen from Russian 102A-102B-102C (when taken in conjunction with Russian 112A-112B-112C), 124A-124F, 125, 126, 130A-130B-130C, 134, 140A-140D, 150, 193, Polish 152A-152B, Czech 155A-155B, Serbo-Croatian 154A-154B.

Students intending to continue into graduate school should note that several graduate courses (numbered below 220) may be taken by qualified seniors with permission of the instructor and the Graduate Advisor.

Slavic

99A-99B. Slavic Peoples and Cultures. Three hours weekly. 99A. Prehistoric period and migrations of the Slavs. Beginnings of Slavic literacy. Cultural history of the West and South Slavs. 99B. Cultural history of the East Slavs, with an emphasis on Russia. The Staff

177. Baltic Languages and Cultures. (½ course) Two hours weekly. A general survey of the peoples speaking Old Prussian, Lithuanian, and Latvian; their linguistic, historical and ethnic affiliations. Mrs. Gimbutas

M179. Baltic and Slavic Folklore and Mythology. (Same as Folklore M126.) Three hours weekly. A general course for students interested in folklore and mythology and for those interested in Indo-European mythic antiquities. Mrs. Gimbutas

199. Special Studies. (½ to 2 courses) No scheduled hours. Prerequisite: senior standing and consent of instructor. The Staff

Bulgarian

103A-103B-103C. Elementary Bulgarian. Five hours weekly. Basic course in the Bulgarian language. The Staff

130. Introduction to Bulgarian Civilization. Three hours weekly. An introductory survey of the social and cultural institutions of the Bulgarian people and their historical background. The Staff

154. Survey of Bulgarian Literature. Prerequisites: upper-division standing. Three hours weekly. Lec-

tures and readings in English. A survey of Bulgarian literature from the Middle Ages to the present. Mr. Shurbanov

Czech

102A-102B-102C. Elementary Czech. Five hours weekly. Basic course in the Czech language. The Staff

102D-102E-102F. Advanced Czech. Three hours weekly. Prerequisite: Czech 102C. The Staff

155A-155B. Czech Literature. Three hours weekly. Lectures and reading in English. 155A. Survey of Czech literature from the Middle Ages to the present. 155B. Selected topics. The Staff

Polish

102A-102B-102C. Elementary Polish. Five hours weekly. Basic course in the Polish language. The Staff

102D-102E-102F. Advanced Polish. Three hours weekly. Prerequisite: Polish 102C. The Staff

152A-152B. Survey of Polish Literature. Three hours weekly. Lectures and readings in English. 152A. From the Middle Ages to Romanticism. 152B. From Realism to the present. The Staff

160. Polish Romanticism. Three hours weekly. Lectures and readings in English. Comparison of Polish Romanticism with that of other Slavic and Western European countries. The Staff

Russian

Language Courses

1. Elementary Russian. Five hours weekly plus one hour per week in laboratory. The Staff

2. Elementary Russian. Five hours weekly plus one hour per week in laboratory. The Staff

3. Elementary Russian. Five hours weekly plus one hour per week in laboratory. The Staff

4. Intermediate Russian. Five hours weekly plus one hour per week in laboratory. The Staff

5. Intermediate Russian. Five hours weekly plus one hour per week in laboratory. The Staff

6. Intermediate Russian. Five hours weekly plus one hour per week in laboratory. The Staff

10A-10B-10C. Russian Conversation. (½ course each) Three hours weekly. Prerequisite: Russian 3 or consent of the instructor. Russian conversation designed to supplement the grammar and readings of Russian 4-5-6. The Staff

11A-11B-12A-12B-13A-13B. Self-Paced Program in Russian (½ to 3 courses) Basic course in the Russian language. Each two-unit course in the sequence requires ½ hour of laboratory session per week and ½ hour of discussion session per week plus individual instruction as required by the staff. Courses 11B and higher require the completion or simultaneous enrollment in all courses lower in the sequence. The Staff

101A-101B-101C. Advanced Russian. (¾ course each) Prerequisite: Russian 6. Course will meet three hours/week, with additional meetings and laboratory sessions at the instructor's discretion. Advanced grammar and reading. The Staff

102A-102B-102C. Advanced Grammar and Reading. (¾ course each) Three hours weekly. Prerequisite: Russian 101C or consent of instructor. Advanced grammatical analysis; reading of difficult texts. Required for the M.A. (Linguistics, Literature). The Staff

111A-111B-111C. Conversation and Composition. (¼ course each) Two hours weekly. Prerequisite: Russian 6 and 10C, or permission of the instructor. Conversation and composition. Conducted in Russian. Required of majors. The Staff

112A-112B-112C. Advanced Conversation and Composition. (¼ course each) Two hours weekly. Prerequisite: Russian 111C, or consent of the instructor. Advanced conversation and composition. Conducted in Russian. Required for the M.A. (Linguistics, Literature). The Staff

Linguistics Courses

121. Russian Phonology. Three hours weekly. Prerequisite: Russian 6. Introduction to transliteration and transcription, articulatory phonetics, phonemics. The Staff

122. Russian Morphology. Three hours weekly. Prerequisite: Russian 121. Introduction to morphophonemics, inflection, derivation. The Staff

123. Historical Commentary on Modern Russian. Three hours weekly. Prerequisites: Russian 121, 122. Historical explanation of the phonological and morphological anomalies of modern Russian. The Staff

Literature Courses

119. Survey of Russian Literature to Pushkin. Three hours weekly. Prerequisite: upper division standing. (Slavic majors should take this course during their sophomore year.) Lectures and readings in English. The Staff

120A-120B. Survey of Russian Literature. Three hours weekly. Prerequisite: upper division standing. (Slavic majors should take this course during their sophomore year.) Lectures and readings in English. 120A. Nineteenth Century. 120B. Twentieth Century. The Staff

124A-124F. Studies in Russian Literature. Three hours weekly. Lectures and reading in English. The following writers will be alternately discussed: A. Pushkin; B. Gogol; C. Turgenev; D. Dostoevsky; E. Tolstoy; F. Chekhov. The Staff

125. The Russian Novel in its European Setting. Three hours weekly. Prerequisite: upper division standing. Emphasis on nineteenth and twentieth-century novelists. Lectures and readings in English. The Staff

126. Survey of Russian Drama. Three hours weekly. Prerequisite: upper division standing. Major Russian plays of the 18th to 20th centuries. Lectures and readings in English. The Staff

130A-130B-130C. Russian Poetry. Three hours weekly. Prerequisite: Russian 6. Lectures and readings in Russian. 130A. Introduction to analysis of poetic texts. 130B. From mid-eighteenth century through precursors of Symbolism. 130C. From late-nineteenth century through contemporary Soviet verse. The Staff

134. Pushkin. Three hours weekly. Prerequisite: Russian 6. Major poetical works. Lectures and readings in Russian. The Staff

140A-140D. Russian Prose. Three hours weekly. Prerequisite: Russian 6. Lectures and reading in Russian. 140A. Major writers from Karamzin to Turgenev; 140B. Dostoevsky to Gorky; 140C. Contemporary writers; 140D. Advanced readings in Russian prose. The Staff

M150. Russian Folk Literature. (Same as Folklore M150.) Three hours weekly. Lectures and readings in Russian. The Staff

193. Seminar in Russian Literature. Three hours weekly. Prerequisites: Russian 6 or consent of the instructor; Russian 101C recommended. Reading and discussion of selected authors; written seminar papers will usually be required. The Staff

Serbo-Croatian

103A-103B-103C. Elementary Serbo-Croatian. Five hours weekly. Basic course in the Serbo-Croatian language. The Staff

103D-103E-103F. Advanced Serbo-Croatian. Three hours weekly. Prerequisite: Serbo-Croation 103C. The Staff

154A-154B. Yugoslav Literature. Three hours weekly. Lectures and readings in English. 154A. Survey of Yugoslav literature from the Middle Ages to the present. 154B. Selected topics. The Staff

Ukrainian

101A-101B-101C. Elementary Ukrainian. Five hours weekly. Basic course in the Ukrainian language. The Staff

Non-Slavic Languages of Eastern Europe

Lithuanian

101A-101B-101C. Elementary Lithuanian. Five hours weekly. Basic course in the Lithuanian language. The Staff

Romanian

101A-101B-101C. Elementary Romanian. Five hours weekly. Basic course in the Romanian language. The Staff

130. Introduction to Romanian Civilization. Three hours weekly. An introductory survey of the social and cultural institutions of the Romanian people and their historical background. The Staff

Related Courses in Other Departments

History 146A-146D; **Linguistics** 100, 103, 110, 120A-120B, M150, as well as several of the graduate courses in Linguistics.

SOCIAL WELFARE

(Department Office, 200 Dodd Hall)

The department of Social Welfare does not offer an undergraduate degree. For detailed information on degrees offered by this department, please refer to the Graduate Catalog.

SOCIOLOGY

(Department Office, 264 Haines Hall)

Howard E. Freeman, Ph.D., *Professor of Sociology.*
Harold Garfinkel, Ph.D., *Professor of Sociology.*
Oscar Grusky, Ph.D., *Professor of Sociology.*
Gene N. Levine, Ph.D., *Professor of Sociology.*
Georges Sabagh, Ph.D., *Professor of Sociology.*
Melvin Seeman, Ph.D., *Professor of Sociology.*
Donald J. Treiman, Ph.D., *Professor of Sociology.*
Ralph H. Turner, Ph.D., *Professor of Sociology.*
Maurice Zeitlin, Ph.D., *Professor of Sociology.*
Leo J. Kuper, Ph.D., *Emeritus Professor of Sociology.*
Richard T. Morris, Ph.D., *Emeritus Professor Sociology.*
Rodolfo Alvarez, Ph.D., *Associate Professor of Sociology.*
Kenneth D. Bailey, Ph.D., *Associate Professor of Sociology.*
Phillip Bonacich, Ph.D., *Associate Professor of Sociology.*
Robert M. Emerson, Ph.D., *Associate Professor of Sociology.*
Lucie C. Hirata, Ph.D., *Associate Professor of Sociology.*
John E. Horton, Ph.D., *Associate Professor of Sociology.*
Ivan H. Light, Ph.D., *Associate Professor of Sociology.*
David E. Lopez, Ph.D., *Associate Professor of Sociology.*
David D. McFarland, Ph.D., *Associate Professor of Sociology.*
Valerie K. Oppenheimer, Ph.D., *Associate Professor of Sociology.*
Melvin Pollner, Ph.D., *Associate Professor of Sociology.*
Jerome Rabow, Ph.D., *Associate Professor of Sociology.*
Emanuel A. Schegloff, Ph.D., *Associate Professor of Sociology.*
Samuel J. Surace, Ph.D., *Associate Professor of Sociology.*
Warren D. TenHouten, Ph.D., *Associate Professor of Sociology.*
Jeffrey Alexander, Ph.D., *Assistant Professor of Sociology.*
Roderick J. Harrison, *Assistant Professor of Sociology.*
Jack Katz, Ph.D., *Assistant Professor of Sociology.*
Clarence Lo, Ph.D., *Assistant Professor of Sociology.*
Linda B. Nilson, Ph.D., *Assistant Professor of Sociology.*
Melvin Oliver, Ph.D.., *Assistant Professor of Sociology.*
Jeffrey Prager, *Assistant Professor of Sociology.*
William G. Roy, *Assistant Professor of Sociology.*
Lynne G. Zucker, Ph.D., *Assistant Professor of Sociology.*

NOTE: For key to symbols, see pages 65 and 66

Ralph L. Beals, Ph.D., *Emeritus Professor of Anthropology and Sociology.*
Judith Blake, Ph.D., *Professor of Public Health and Sociology.*
Michael S. Goldstein, Ph.D., *Associate Professor of Public Health and Sociology.*
C. Wayne Gordon, Ph.D., *Professor of Education and Sociology.*
Harry H. L. Kitano, Ph.D., *Professor of Social Welfare and Sociology.*
David O'Shea, Ph.D., *Associate Professor of Education and Sociology.*
Edwin S. Shneidman, Ph.D., *Professor of Thanatology, Medical Psychology, Psychology, and Sociology.*
Gerald H. Shure, Ph.D., *Professor of Psychology and Sociology.*
Julia C. Wrigley, *Assistant Professor of Education and Sociology.*
Assistant Professor of Sociology.

Purposes of the Major in Sociology

The primary purpose of the major in Sociology is to contribute directly to the student's capacity for critical analysis and understanding of social phenomena. It is intended at the same time to serve as a preparation for those who plan a career in areas such as the following: high school or junior college teaching, social work, architecture and urban planning, law, public health, and government service. It also provides training for advanced graduate work in Sociology and Social Psychology.

Preparation for the Major

An introductory course, Sociology 1 or 101, is required. Also required at the lower division level is a statistics course, Sociology 18. Alternatively, this requirement can be met with Mathematics 50A, Psychology 41, Economics 40, or Public Health 100A.

Also required at the lower division level are two courses from Group A: Mathematics 2, 4A; Philosophy 31; Economics 1, 2; or Linguistics 1; and two courses from Group B: Anthropology 5A, 5C, 22; History 1A, 1B, 1C; Philosophy 7, 21; Political Science 1; Psychology 10; or Geography 3.

All courses required for the major in Sociology, including lower division and allied field courses, must be taken for a letter grade. A 2.0 grade-point average is required for the preparation and for the major.

The Major

Ten upper division Sociology courses, not including course 101, are required for the major. These ten courses must include the following: (40 units)

(1) *Sociology 109 and Sociology 112 or 113.* These courses, devoted to the systematic exploration of sociological methods and theories, introduce students to the skills and concepts necessary for upper division work in the Department. Students are strongly advised to complete these two required courses as early as possible in the junior year.

(2) Four upper division courses as required by one of the specialized *Concentrations for the Major* listed below.

(3) Any four additional upper division Sociology courses.

(4) Four upper division allied field courses (16 units) in other departments are required to complete the major. The allied fields are: Anthropology, Economics, Geography, History, Political Science and Psychology. Each concentration has its own set of recommended allied field courses. This list of courses (and faculty advisors) is available from the Department's Undergraduate Counselor in Haines Hall 254B. Students are encouraged to examine these specific concentration related listings as well as consult the respective faculty advisor for each concentration.

Concentrations for the Major

By the end of the junior and no later than the beginning of the senior year, students are required to declare their specific concentration by filing a statement with the Undergraduate Counselor. The purpose of the concentration requirement is to expose the student to systematic, in-depth work within a specific area of sociology. Completion of a concentration will require four upper division Sociology courses, as well as four upper division allied field courses. A student must take a concentration's required course (if any) *before* declaring that concentration. Students are required to select one of the following concentrations and to meet its course requirements:

(1) *Comparative and Historical Sociology*

Required: 138.
Two of the following: 120, 126, 140, 141.
One of the following: 130-137.

(2) *Organizations*

Required: 121.
Three of the following: 120, 123, 128, 140, 141, 147, 152.

(3) *Political Sociology*

Required: 140 and
Three of the following: 114, 120, 124, M143, 147, 150.

(4) *Quantitative Sociology*

The student should consult the Faculty Advisor for pre-major requirements for this concentration.
Required: 116 and
Three of the following: 123, 126, 152 and 154.
Recommended: Math 152AB instead of Sociology 18 on the Prep.

(5) *Race and Ethnicity*

Required: 124 and
Two of the following: 120, 123, 151, and 155.
One of the following: 130-137

(6) *Social Change and Modern Society*

Required: 120 and
Two of the following: 123, 140 and 150.
One of the following: 124, 125, 136, 141.

(7) *Social Demography*

Required: 126 and
Three of the following: 116, 123, 132, and 160.

(8) *Social Organization and Language, Thought and Experience*

Four of the following: 144AB, 148, 149, 153, 157, and 159.

(9) *Social Psychology*

Required: 154 and
Three of the following: 115, 150, 151, 152, 153, and 155.

(10) *Social Stratification*

Required: 123 and
Three of the following: 114, 116, 124, 128, 136, 140, 155, and 160.

A Psychology course taken to fulfill the breadth requirement cannot also be used for the allied field requirement. Only eight units of Sociology 199 are allowed. At least four of the Sociology courses must be taken while in residence in the College of Letters and Science on this campus.

Students are encouraged to consult the Undergraduate Counselor in Haines Hall 254B whenever problems arise with regard to their academic programs. This office also provides counseling for students interested in obtaining career advice.

Courses 109, 210A and 210B are recommended for students who intend to pursue graduate work in Sociology.

The Honors Program

The Honors Program in Sociology provides an opportunity for outstanding students to undertake an independent year-long research project under the guidance of a member of the sociology faculty. The project culminates with an honors thesis or paper. The main advantage provided is the opportunity to work closely with individual faculty sponsors. Students intending to obtain advanced degrees will find this program especially useful. Students selected will enroll in Sociology 199HA, B, and C in their senior year. These courses will count toward the ten upper division course requirement for all Sociology majors. Upon completing the program students will graduate either with Departmental Honors or Highest Honors on their record. Qualifications: In order to quality for the program the student must have a 3.5 overall grade point average, have completed the Sociology Preparation requirements and, in most cases, have completed the required theory course. Applications are available in the Sociology Undergraduate Counselor's office, 254B Haines Hall. Students should apply in the last quarter of their junior year.

Lower Division Courses

1. Introductory Sociology. No credit will be given for this course to students who have completed Sociology 101. Survey of the characteristics of social life, the processes of social interaction, and the tools of sociological investigation. The Staff

18. Interpretation of Quantitative Data. Prerequisite: course 1 or 101, or may be taken concurrently. Satisfies the statistics requirement for the major in sociology. Reading graphs and tables; statistical description using indices of central tendency, dispersion, and association; simple linear regression. Probability; the binomial, normal, t and chi-square distributions and hypothesis testing based on them. Examples drawn from recent issues of American Sociological Review or other leading sociological journals. The Staff

Upper Division Courses

Course 1, or the equivalent, and upper division standing (upper division standing may be waived by permission of the instructor) are prerequisite to all upper division courses in Sociology.

101. Principles of Sociology. Prerequisite: upper division standing. No credit will be given for this course if course 1 has been completed. For upper division students who have not taken Sociology 1. A more intensive introduction to sociology than is given in course 1. May not be counted on the major. The Staff

109. Introduction to Sociological Research Methods. A systematic treatment and semiquantitative skills of use in sociological research, e.g., classification, questionnaire and schedule design, content analysis, critical analysis of studies, conceptual analysis of case materials. Field work may be required for this course.
Mr. Bailey, Mr. Harrison, Mr. TenHouten

112. Development of Sociological Theory. A comparative survey of basic concepts and theories in sociology, 1850-1920; the codification of analytic schemes; a critical analysis of trends in theory construction.
Mr. Alexander, Mr. Bailey, Mr. Horton

113. Contemporary Sociological Theory. A critical examination of significant theoretical formulations, 1920 to the present; an analysis of the relation between theoretical development and current research emphasis.
Mr. Garfinkel, Ms. Hirata, Mr. TenHouten

114. Marxist Sociology. The course will stress the fundamentals of Marxist theory and method and their historical development. Attention will be given throughout to continuing debates within Marxism and to differences between Marxism and other schools of sociological thought. This course does not meet the theory requirement for the major.
Mr. Horton

115. Experimentation and Laboratory Methodology in Sociology. Prerequisites: course 18 or equivalent introductory statistics and introductory social psychology. This course provides opportunities for students to participate as observers, subjects, and experimenters in a variety of laboratory and simulations of social and political settings and to use a number of computer-supported techniques as aids in conducting, analyzing, and interpreting their experiences in these settings.
Mr. Shure

116. Introduction to Mathematical Sociology. Prerequisite: Mathematics 2, 4A (a course whose content includes introductions to probability theory,

matrix algebra, and differential and integral calculus), and Sociology 18 or equivalent. Mathematical treatments of several sociological phenomena, such as occupational mobility, population growth, organizational structure, and friendship patterns, each covered in some detail, including initial development and subsequent evaluation and modification, emphasizing both the deductive and computational aspects of mathematics.
Mr. McFarland

120. Social Change. A study of patterns of social change, resistance to change, and change-producing agencies and processes.
Mr. Alexander, Mr. Surace

121. Organizations and Society. Sociological analysis of organizations and their social environment. An introduction to basic theories, concepts, methods, and research on the behavior of organizations in society.
Mr. Alvarez, Mr. Grusky, Mr. Surace

122. Mass Communications. Formal organization, functions, and development of the mass media; communications as a social process; cultural patterns; audience characteristics; communications and bureaucracy. Aspects of the American media are compared with other systems, e.g., Soviet, British, Arabic. Field work may be required for this course. Mr. Levine

123. Social Stratification. An analysis of American social structure in terms of evaluational differentiation. Topics to be considered include criteria for differentiation, bases for evaluation, types of stratification, the composition of strata and status systems, mobility, consequences of stratification and problems of methodology.
Mr. Lopez, Mr. McFarland, Ms. Nilson

124. Ethnic and Status Groups. The characteristics of the "visible" ethnic groups, e.g., Japanese, Mexican and Negro; their organization, acculturation, and differentiation. The development, operation and effects of selective immigration and population mobility. The status of the chief minorities in the continental U.S., with comparative materials drawn from Jamaica, Hawaii, and other areas.
Mr. Alvarez, Mr. Kitano, Mr. Prager

125. Urban Sociology. Urban and rural cultures, the characteristics of cities in Western civilization, with emphasis on the American metropolis.
Mr. Light, Mr. Oliver

126. Social Demography. Studies of past, present, and future trends in population growth. Sociological theories of causes and consequences of population growth and redistribution. Emphases on the correlates of fertility, mortality, and migration.
Mr. Bailey, Ms. Oppenheimer, Mr. Sabagh

128. Occupations and Professions. Description and analysis of representative occupations and professions, with emphasis upon the contemporary United States.
Mr. Light, Ms. Nilson, Ms. Oppenheimer

129. White Racism. Verbal and metaphorical stereotyping of blacks, whites and other subdominant and dominant groups; cross-cultural comparisons; impact of media; institutional racism, educational and economic; political mobilization of black and poor communities; the study of strategies for resisting white racism. The Staff

130. Social Processes in Africa. A course in comparative sociology. A study of selected processes in African societies, primarily in the fields of urban sociology, social structure and social change, involving an interdisciplinary approach.
The Staff

131. Latin American Societies. A descriptive survey of the major Latin American societies, emphasizing their historical backgrounds and their emergent characteristics, with special attention to the relations between rural and urban life. Mr. Lopez

132. Population and Society in the Middle East. Prerequisite: upper division standing and consent of the instructor. A survey of the Middle Eastern societies; their historic and environmental bases; the contemporary demographic and cultural situation. Mr. Sabagh

133. Comparative Sociology of the Middle East. Prerequisite: upper division standing and consent of the instructor. A review of the unity of Middle Eastern societies in Islam and their diversity exemplified by such nomadic peoples considered throughout. The Staff

134. Comparative Social Institutions of East Asia. Analysis of selected social institutions of China, Japan, and Korea. Emphasis will be on continuity and change in East Asian societies. Ms. Hirata

136. Structure and Process of American Society. Analysis of interrelationships among structures and processes in American society, with emphasis on patterns of differentiation, exchange, control, and belief formation. The question of boundary definition (both analytic and real) and the question or order will be considered throughout.
Mr. Lo, Mr. Roy, Mr. Zeitlin

137. Comparative Studies of Jewish Communities in the U.S. and Abroad. The history, distribution, structure, and functioning of major Jewish communities is covered, with particular focus upon North America and Israel. Interrelationships and sources of conflict between Jews and Gentiles in Western countries are taken up. More generally, the economic and social integration of Diaspora Jewish communities is treated. Field work may be required for this course. Mr. Levine

138. Comparative and Historical Sociology. Prerequisite: course 1/101. A survey of the central themes of comparative and historical studies in sociology. The various aspects of the development of modern society are covered including the development of nation-state, the emergence of capitalism, industrialization, and population growth. Variation in contemporary society is viewed from a variety of theoretical perspectives.
Ms. Hirata, Mr. Prager, Mr. Roy

140. Political Sociology. The contributions of sociology to the study of politics including the analysis of political aspects of social systems, the social context of action, and the social bases of power. Mr. Roy, Mr. Zeitlin

141. Economy and Society. The sociology of economic life with emphasis upon principal economic institutions of the United States.
Mr. Light, Mr. Lo

142. Sociology of the Family. Theory and research dealing with the modern family, its structure and functions, including historical changes, variant family patterns, family as an institution, and the influence of the contemporary society on the family. The Staff

M143. Sociology of Education. (Same as Education M108.) Studies of social processes and interaction patterns in educational organizations, the relationships of such organizations to aspects of society, social class and power, social relations within the school, formal and informal groups, school culture, roles of teachers, students, and administrators.
Mr. Gordon, Mr. Rabow, Ms. Wrigley

144A. Conversational Structures I. An introduction to some of the structures which are employed in the organization of conversational interaction, such as turn-taking organization, the organization of repair, and some basic sequence structures with limited expansions. Mr. Schegloff

144B. Conversational Structure II. Prerequisite: course 144A. A consideration of some of the more expanded sequence structures, story structures, topical sequences, and the overall structural organization of single conversations.
Mr. Schegloff

145. Sociology of Deviant Behavior. An examination of the leading sociological approaches to the study of deviation and a general survey of the major types of deviation in American society.
Mr. Freeman, Mr. Horton, Mr. Surace

146. Criminology. Theories of the genesis of crime; factors in the organization of criminal behavior from the points of view of the person and group; criminal behavior systems.
Mr. Katz, Mr. Rabow

147. Control of Crime. Theories of punishment; methods of dealing with convicts; social organization of police, courts, prisons, probation, and parole. Field work is a required feature of this course. Mr. Emerson, Mr. Rabow

148. Normal Environments. Structural interpretation of the concerted production, management, and alteration of preceivedly normal interpersonal environments. Field work is a required feature of this course. Mr. Garfinkel, Mr. Pollner

149. A Study of Norms. Properties of norms, of normatively governed conduct, of lay and professional methods for describing, producing, using, and validating norms in contrasting settings of socially organized activities; relevance of these properties for the programmatic problems of analytic sociology. Field work is a required feature of this course. Mr. Garfinkel, Mr. Pollner

150. Collective Behavior. Prerequisite: course 1 or equivalent, course 18 or equivalent, and upper division standing. Characteristics of crowds, mobs, publics, social movements, and revolutions. Their relation to social unrest and their role in developing and changing social organization.
Mr. Prager, Mr. Seeman, Mr. Turner

151. Culture and Personality. Prerequisite: course 1 or equivalent, course 18 or equivalent, and upper division standing. Theories of the relation of variations in personality to culture and group life, in primitive and modern societies, and the influence of social role on behavior. Mr. Turner

152. Group Processes. Systematic study of the formation, structure, and functioning of groups; analysis of group processes and group products from a variety of theoretical viewpoints; implications of various research techniques.
Mr. Bonacich, Mr. Rabow, Ms. Zucker

153. Process and Socialization in the Family. Prerequisite: course 1 or equivalent, course 18 or equivalent, and upper division standing. Examination of the processes of interaction, decision-making, role differentiation, conflict, integration, and socialization within the family and their interrelations with society. Mr. Turner

154. Social Psychology: Sociological Approaches. A survey of the contribution of sociologists to theory and research in social psychology including theories of social control; conformity and deviation; reference groups; and interaction process.
Mr. Bonacich, Mr. Rabow, Ms. Zucker

155. Intergroup Conflict and Prejudice. A study of the causes and consequences of group conflict, with emphasis upon majority-minority relations, prejudice and discrimination. Special attention is given to alternative sociological and psychological theories of prejudice; the effects of minority status upon the individual; and the possibilities for attitude and behavior change. Mr. Oliver, Mr. Seeman

156. Psychoanalytic Sociology. Prerequisites: Introductory Sociology or Sociology 101, and Sociology 18. A course in theory (112/113) is recommended, as well as a course in Social Psychology. A course designed to review the models of integration, between psychoanalysis and sociology. This analytical perspective will be applied to selected substantive areas and social processes. The areas include, but are not limited to, group development, delinquency, and deviance. The processes include socialization, identity and self formation, role taking and role making. Mr. Rabow

157. Sociology of Mental Illness. Analysis of the major sociological and social psychological models of madness. Study of the social processes involved in the production, recognition, labeling and treatment of "mental illness."
Mr. Emerson, Mr. Goldstein, Mr. Pollner

M158. Death and Suicide: Psychological and Sociological Aspects. (Same as Psychology M163.) Junior required. This course is offered on both a

NOTE: For key to symbols, see pages 65 and 66

pass/not pass and letter grade basis. The definition and taxonomy of death; the new permissiveness and taboos relating to death; the romanticization of death; the role of the individual in his own demise; the modes of death; development of ideas of deaths through the life span; ways in which ideas of death influence the conduct of lives; the impact of dying on the social structure surrounding the individual; preventive, interventive and postventive practices in relation to death and suicide; partial death; megadeath; lethality; the psychological autopsy; the death of institutions and cultures.
Mr. Shneidman

159. The Sociology of Knowledge. Prerequisite: course 1 or equivalent. A study of the social production of modes of thought and forms of knowledge. The course includes the study of ways in which bodies of knowledge and cognitive styles are produced, used and transformed in every day, organizational, and extraordinary contexts.
Mr. Pollner, Mr. Rabow, Mr. TenHouten

160. The Demography and Sociology of Women's Economic Roles. Prerequisites: course 1, course 18, or Mathematics 50, or Psychology 41, or Economics 140 or Public Health 160A or by consent of the instructor. A demographic and sociological analysis of the factors affecting women's economic roles in the world of work and the family. Topics to be considered include demographic determinants of women's socioeconomic roles, women's changing place in the occupational structure, men's and women's contribution to the socioeconomic status of the family, the socioeconomic position of women without men to support them, future trends, and social policy affecting women's status.
Ms. Oppenheimer

161. The Social Organization of Psychiatric Treatment. Review of current research and theory on psychiatric treatment processes and treatment organizations, including mental hospitals and community mental health organizations. Sociology 157 is *strongly recommended* as a prerequisite for this course. Mr. Emerson, Mr. Grusky

162. Sociology of Law. Prerequisite: upper division standing. The political impact of court decisions; legalization of social relations in modern institutions; social movements toward equal justice; the judicial role; experience of participants in legal processes; common sense conceptions of justice.
Mr. Katz

Advanced Studies

181-186. Undergraduate Seminars. Prerequisites: upper division standing, major in Sociology, and permission of the instructor. These courses are listed under each of six core areas, with 181 in Core Area I, 182 in Core Area II, etc. The Staff

199. Special Studies. (½ to 2 courses) Prerequisite: senior standing, 3.0 grade-point average in major, course 1 and 18 or the accepted equivalent required, consent of instructor and department chairman. A course of independent study designed for graduate or senior undergraduate students who (a) desire a more advanced or specialized treatment of an area covered in the regular course list and who present that course as a prerequisite; or (b) desire work in an area of sociological analysis currently not covered by an upper division course. Only 8 units are allowed. See Undergraduate Counselor for course contract. The Staff

199HA-199HB-199HC. Special Study for Honors. Prerequisite: Admission to the Sociology Department Honors Program.

199HA. Design of a research project to serve as the student's honors thesis. A research proposal, detailed bibliography, and regular meetings with the sponsoring faculty member will be required;

199HB. Continuation of work initiated in 199HA. A series of progress reports will be prepared in consultation with the instructor;

199HC. Completion of the written report or honors thesis. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

SPANISH AND PORTUGUESE

(Department Office, 5303 Rolfe Hall)

Shirley L. Arora, Ph.D., *Professor of Spanish.*
José R. Barcia, Lic. F. y L., *Professor of Spanish.*
Rubén A. Benítez, Ph.D., *Professor of Spanish.*
Claude L. Hulet, Ph.D., *Professor of Spanish and Portuguese.*
Carroll B. Johnson, Ph.D., *Professor of Spanish (Chairman of the Department).*
C.B. Morris, Litt.D., *Professor of Spanish.*
C.P. Otero, Ph.D., *Professor of Spanish and Romance Linguistics.*
Stanley L. Robe, Ph.D., *Professor of Spanish.*
John A. Crow, Ph.D., *Emeritus Professor of Spanish.*
John E. Englekirk, Ph.D., *Emeritus Professor of Spanish.*
Donald F. Fogelquist, Ph.D., *Emeritus Professor of Spanish.*
Aníbal Sánchez-Reulet, Ph.D. *Emeritus Professor of Spanish.*
Marion A. Zeitlin, Ph.D., *Emeritus Professor of Spanish and Portuguese.*
Gerardo Luzuriaga, Ph.D., *Associate Professor of Spanish.*
Richard M. Reeve, Ph.D., *Associate Professor of Spanish.*
Enrique Rodríguez-Cepeda, Ph.D., *Associate Professor of Spanish.*
Paul C. Smith, Ph.D., *Associate Professor of Spanish.*
Susan Plann, Ph.D., *Assistant Professor of Spanish.*
A. Carlos Quicoli, Ph.D., *Assistant Professor of Portuguese and Romance Linguistics.*
A. John Skirius, Ph.D., *Assistant Professor of Spanish.*

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José M. Cruz-Salvadores, M.A., *Lecturer in Spanish.*
E. Mayone Dias, Ph.D., *Lecturer in Spanish and Portuguese.*
George L. Voyt, J.D., *Lecturer in Spanish.*

The following courses are primarily designed to serve the department's three B.A. programs: the B.A. in Spanish (Plan A), the B.A. in Spanish and Linguistics (Plan B), and the B.A. in Portuguese, as well as to prepare students for its three graduate programs: the M.A. in Spanish, the M.A. in Luso-Brazilian Language and Literatures, and the Ph.D. in Hispanic Languages and Literatures. The department's courses are also functionally supportive of such extradepartmental programs as the Teaching Credential in Spanish, the B.A. and M.A. programs in Latin American Studies, the M.A. program in Folklore and Mythology, and the M.A. and Ph.D. programs in Comparative Literature and Romance Linguistics and Literature.

Spanish

All new students who wish to enroll in any course beyond Spanish 1 must take the Placement Test given each quarter during the week before classes begin. Consult *Schedule of Classes.*

Preparation for the Major

Course 25 or equivalent as determined by the Placement Test. Courses M42 and M44 or equivalent.

The Major

The Major, Plan A (Language and Literature)

Linguistics 100 is prerequisite to Spanish 100 and 103. Spanish majors may take it Pass/Non Pass or for a letter grade. It is applicable to the Breadth Requirement (Plan A and Plan B) as a course in Social Sciences.

Fifteen upper division courses distributed as follows: nine required courses: 100, 103, 105 or 109, 115 or M118, 120A-120B, 121A-121B, and 127; six elective courses: one in Spanish literature, one in Spanish American literature, and four selected from other Department offerings not including 160A-160B-160C.

The Major, Plan B (Spanish and Linguistics)

In addition to the normal preparation for the major, Plan B requires completion of six quarters of work in one other foreign language or three quarters in each of two other languages. Portuguese is recommended.

The major consists of thirteen upper division courses distributed as follows: four required courses in Spanish: 100, 103, 105 or 109, 119; six required courses in Linguistics: 100, 103, 110, 120A, 120B, 140; three electives in Spanish.

General College Regulation

No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition.

Honors Program

To qualify for graduation with departmental honors, students must achieve a 3.0 overall grade-point average, a 3.50 grade-point average in the major, and have completed two of the three Senior Seminars, 170A, 170B, 170C.

Requirement for Teaching Credentials

Consult the UCLA *Announcement of the Graduate School of Education.*

Lower Division Courses

Spanish 1-4 use J.R. Barcia, *Lengua y Cultura.* The method is inductive. Selected examples are given to enable the student to inductively grasp the rules and develop his own grammar. This enables the student to use language effectively and creatively. The courses are taught entirely in Spanish—the student simultaneously learns to understand, speak, read and write Spanish.

1. Elementary Spanish. Meets five hours weekly; laboratory one hour. This course corresponds to the first year of high school Spanish. Not available for academic credit for those students who have completed more than one year of high school Spanish or the equivalent. The student will, however, be credited with four units toward their minimum progress requirement. The Staff

1G. Reading Course for Graduate Students. (No credit) Meets five hours weekly. The Staff

2. Elementary Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 1 or one year of high school Spanish, or equivalent. Not available for academic credit for those students who have completed two years of high school Spanish or the equivalent. The students will, however, be credited with four units toward their minimum progress requirement. The Staff

2G. Reading Course for Graduate Students. (No credit) Meets five hours weekly. Prerequisite: course 1G or equivalent. The Staff

3. Elementary Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 2, or two years of high school Spanish, or equivalent.
The Staff

4. Intermediate Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 3, or three years of high school Spanish, or equivalent.
The Staff

5. Intermediate Spanish. Meets five hours weekly; laboratory one hour. Prerequisite: course 4 or four years of high school Spanish, or equivalent.
The Staff

8A-8B. Spanish Conversation. (½ course each) Beginning each quarter. Meets three hours weekly. Prerequisite: course 8A is open to those who have completed course 4, or equivalent. Students who have completed course 3 with grade B or better may be admitted. The Staff

9A-9B. Advanced Conversation. (½ course each) Beginning each quarter. Meets three hours weekly. Prerequisite: course 8B or equivalent. The Staff

25. Advanced Spanish. Prerequisite: course 5 or equivalent. Concentration on the building of vocabulary and the attainment of a high degree of comprehension in preparation for the courses in literature. The Staff

M42. Civilization of Spain and Portugal. (Same as Portuguese M42.) Highlights of the Civilization of Spain and Portugal, with emphasis on their artistic,

economic, social and historical development as background for upper division courses. Conducted in English. Required for the major.
Mr. Cruz–Salvadores

M44. Civilization of Spanish America and Brazil. (Same as Portuguese M44.) Highlights of the Civilization of Spanish America and Brazil with emphasis on their artistic, economic, social and historical development as background for upper division courses. Conducted in English. Required for the major. Mr. Skirius

Upper Division Courses

The basic prerequisite to all upper division courses except 160A-160B-160C is Spanish 25 or the equivalent as determined by the Placement Test.

100. Phonology and Pronunciation. Prerequisite: Linguistics 100. Meets four hours weekly, including one hour laboratory. Analysis of the phonetic and phonemic systems of Spanish with special emphasis on the correlation between the phonemic and graphemic systems. Interrelation of phonological and morphological phenomena. Exercises and drills directed toward individual needs. Required for major (Plan A and Plan B).
Ms. Plann, Mr. Robe

103. Syntax. Prerequisite: Linguistics 100. A study of sentence types and their variations. The lexicon and its features. Interrelation of syntactic, semantic and morphological phenomena. Required for major (Plan A and Plan B). Mr. Otero, Ms. Plann

105. Intermediate Composition. Prerequisite: course 103. Paraphrasing, summarizing, and study of idiomatic expressions. The Staff

109. Advanced Composition. Prerequisite: course 103. Correction of student's original compositions and analysis of basic stylistic elements. The Staff

115. Applied Linguistics. Prerequisite: course 103. Meets three hours weekly. Survey of the major linguistic problems faced by the teacher of Spanish.
Ms. Plann, Mr. Robe

117. The Spanish of Southern California. Prerequisites: Spanish 100 and 103 or consent of the instructor. Analysis of pronunciation, word formation, syntax, and lexicon of the Spanish of Southern California, with attention to regional features, social and age levels of speech, and interference from English. Mr. Robe

M118. History of the Portuguese and Spanish Languages. Prerequisite: Spanish 100. (Same as Portuguese M118.) Meets four hours weekly. Major features of the development of the Portuguese and Spanish languages from the origins in Vulgar Latin to modern times. Contributions of other languages to the formation of Portuguese and Spanish.
Mr. Otero, Mr. Quicoli, Mr. Smith

119. Literary Analysis. An introduction to the study of literary devices, figures of speech and the differentiation of literary genres. Strongly recommended as preparation for the required courses in literature. Required for major (Plan B). The Staff

120A-120B. Survey of Spanish Literature. Prerequisite: M42 for Spanish majors. Beginning each quarter. An introduction to the principal authors, works and movements of Spanish literature. Required for the major (Plan A). The Staff

121A-121B. Survey of Spanish American Literature. Prerequisite: Spanish M44 for Spanish majors. Beginning each quarter. An introduction to the principal authors, works, and movements of Spanish American literature. Required for the major (Plan A). The Staff

122. Medieval and Renaissance Literature. The main genres of Medieval and Renaissance Spanish literature with emphasis on at least one representative work for each. Recommended preparation 120A. The Staff

124. The Golden Age. The main genres of the Golden Age with emphasis on at least one representative work for each. Recommended preparation 120A. Mr. Johnson, Mr. Rodríguez–Cepeda

127. Don Quijote. Directed reading and intensive study of the novel. Required for the major (Plan A). Recommended preparation 120A.
Mr. Johnson, Mr. Rodríguez–Cepeda

128. Neoclassicism and Romanticism in Spain. The main manifestations of thought and literature from 1700 to 1850 with emphasis on representative works. Recommended preparation 120B.
Mr. Benítez, Mr. Rodríguez–Cepeda

130. Spanish Literature from 1850 to 1898. The development of post-Romantic literature with emphasis on representative works. Recommended preparation 120B. Mr. Benítez, Mr. Smith

132A. Spanish Literature in the 20th Century: Poetry and Drama. Spanish poetry and theater since 1898 with emphasis on several representative works for each genre. Recommended preparation 120B. Mr. Barcia, Mr. Benítez

132B. Spanish Literature in the 20th Century: Fiction and the Essay. Spanish prose genres since 1898 with emphasis on representative novels, short stories and essays. Recommended preparation 120B.
Mr. Barcia, Mr. Morris

137. The Literature of Colonial Spanish America. A study of the most important authors and movements in the various regions of Spanish America to 1810. Recommended preparation 121A.
Mrs. Arora

139. 19th Century Spanish American Literature. A detailed study of the important writers and movements from 1810 to 1860. Recommended preparation 121A.
Mr. Luzuriaga, Mr. Reeve, Mr. Skirius

141. Mexican Literature. A study of the major Mexican literary contributions to the development of a national culture. Recommended preparation, 121A-121B. Mr. Reeve, Mr. Skirius

142A. Spanish American Literature in the 20th Century: Poetry and Drama. A detailed study of the important lyrical and dramatic movements in Spanish America since 1880. Recommended preparation 121B. Mr. Luzuriaga, Mr. Skirius

142B. Spanish American Literature in the 20th Century: Fiction and the Essay. Spanish American prose genres since 1880 with representative novels, short stories and essays. Recommended preparation 121B. Mr. Reeve, Mr. Skirius

M149. Folk Literature of the Hispanic World. (Same as Folklore M149.) A study of the history and present dissemination of the principal forms of folk literature throughout the Hispanic countries.
Mrs. Arora, Mr. Robe

151. Folk Song in Spain and Spanish America. (½ course) Meets three hours weekly. A study of the origins and development of Spanish folk music and the different types of folk songs and folk poetry peculiar to the various regions of Spain and Spanish America. The Staff

160A-160B-160C. Hispanic Literatures in Translation. Class readings and analysis of selected works in translation. Classroom discussion, papers and examinations will be in English. Meets three times weekly.

160A. Spain and Portugal. Mr. Johnson

160B. Spanish America and Brazil. Mr. Hulet

160C. *Don Quijote* in English Translation. Class reading and analysis of Cervantes: *Don Quijote*.
Mr. Johnson

170A. Senior Seminar: Topics in Spanish Literature. Prerequisite: Spanish major, senior standing, 3.50 G.P.A. in the major. Directed research on topics within the general area of Spanish literature. Two senior seminars are required for Departmental Honors. Given Fall Quarter only.
Mr. Barcia, Mr. Benítez, Mr. Morris

170B. Senior Seminar: Topics in Spanish American Literature. Prerequisite: Spanish major, senior standing, 3.50 G.P.A. in the major. Directed research on topics within the general area of Spanish American literature. Two senior seminars are required for Departmental Honors. Given Winter Quarter only.
Mrs. Arora, Mr. Luzuriaga, Mr. Reeve

170C. Senior Seminar: Topics in Hispanic Linguistics. Prerequisite: Spanish major, senior standing, 3.50 G.P.A. in the major. Directed research on topics within the general area of Hispanic linguistics. Two senior seminars are required for Departmental Honors. Given Spring Quarter only. Mr. Otero, Mr. Robe, Mr. Smith

199. Special Studies. (½ to 1 course) Prerequisite: consent of adviser and instructor. A maximum of two full courses may count toward the major.
The Staff

Portuguese

Preparation for the Major

Courses 3, 25, M42 and M44, or their equivalent.

The Major in Portuguese

Thirteen upper division courses distributed as follows: Seven required courses: 100, 103, M118, 120A, 120B, 121A, 121B. The remaining six courses may consist of six electives in Portuguese, or four electives in Portuguese plus two courses supportive of the student's program and approved by the department in history, philosophy, linguistics, or another language or literature.

General College Regulation. No credit will be allowed for completing a less advanced course after satisfactory completion of a more advanced course in grammar and/or composition.

Requirement for Teaching Credentials. Consult the UCLA ANNOUNCEMENT OF GRADUATE SCHOOL OF EDUCATION.

Lower Division Courses

1. Elementary Portuguese. Meets five hours weekly; laboratory one hour. The Staff

2. Elementary Portuguese. Meets five hours weekly; laboratory one hour. Prerequisite: course 1 or equivalent. The Staff

3. Intermediate Portuguese. Meets five hours weekly; laboratory one hour. Prerequisite: course 2 or equivalent. The Staff

8A-8B. Portuguese Conversation. (½ course each) Meets three discussion hours weekly. Prerequisite: open to students who have completed Portuguese 3 with Grade B or better. The Staff

25. Advanced Portuguese. Meets four hours weekly. Prerequisite: course 3 or equivalent.
The Staff

M42. Civilization of Spain and Portugal. (Same as Spanish M42.) Highlights of the Civilization of Spain and Portugal, with emphasis on their artistic, economic, social and historical development as background for upper division courses. Conducted in English. Required for the major.
Mr. Cruz–Salvadores

M44. Civilization of Spanish America and Brazil. (Same as Spanish M44.) Highlights of the Civilization of Spanish America and Brazil with emphasis on their artistic, economic, social and historical development as background for upper division courses. Conducted in English. Required for the major. Mr. Skirius

Upper Division Courses

100. Phonology and Pronunciation. Meets four hours weekly, including one hour in laboratory. Analysis of the phonetic and phonemic systems of Portuguese with special emphasis on the correlation between the phonemic and graphemic systems. Exercises and drills directed toward individual needs. Mr. Quicoli

101A. Advanced Reading and Conversation. Meets three hours weekly. Reading and discussion of writings by modern Brazilian and Portuguese authors. Mr. Hulet

NOTE: For key to symbols, see pages 65 and 66

101B. Advanced Composition and Style. Meets three hours weekly. Correction of student's composition and analysis of basic stylistic elements. Mr. Hulet

102A-102B. Intensive Portuguese. Prerequisite: advanced foreign language experience (other than Portuguese) or consent of the instructor. An intensive course stressing both speaking and reading skills designed to cover the equivalent of four quarters of the traditional pattern, to meet the peculiar needs of advanced (upper division and graduate) students who are specializing primarily in foreign languages, linguistics, comparative or romance literature. The Staff

103. Syntax. Meets four hours weekly. A review of the patterns of the Portuguese language: the verb system, syntax of preposition, word pattern and word distribution. Mr. Quicoli

M118. History of the Portuguese and Spanish Languages. (Same as Spanish M118.) Meets four hours weekly. Prerequisite: Portuguese 100. Major features of the development of the Portuguese and Spanish languages from their origins in Vulgar Latin to modern times. Contributions of other languages to the formation of Portuguese and Spanish. Mr. Otero, Mr. Quicoli, Mr. Smith

120A. Survey of Portuguese Literature. Meets four hours weekly. First half of an introduction to the principal movements, authors, and works of Portuguese Literature. Mr. Dias

120B. Survey of Portuguese Literature. Meets four hours weekly. Second half of an introduction to the principal movements, authors, and works of Portuguese Literature. Mr. Dias

121A. Survey of Brazilian Literature. Meets four hours weekly. First half of an introduction to the principal movements, authors and works of Brazilian Literature. Mr. Hulet

121B. Survey of Brazilian Literature. Meets four hours weekly. Second half of an introduction to the principal movements, authors, and works of Brazilian Literature. Mr. Hulet

124. Medieval Portuguese Literature. The main genres of Medieval Portuguese and Galician literature with emphasis on at least one representative work for each. Mr. Dias

126. Renaissance and Baroque Portuguese Literature. The main genres of Renaissance and Baroque literature with emphasis on at least one representative work for each. Mr. Dias

127. Colonial Brazilian Literature. A study of the most important authors and literary currents to 1830. Mr. Hulet

128. 18th and 19th Century Portuguese Literature. The main manifestations of thought and literature from 1700 to 1900 with emphasis on representative works. Mr. Dias

129. Romanticism in Brazil. A study of representative trends and authors. Mr. Hulet

135. Naturalism, Realism and Parnasianism in Brazil. A study of representative trends and authors. Mr. Hulet

136. Contemporary Portuguese Literature. A study of representative trends and authors. Mr. Dias

137. Contemporary Brazilian Literature. A study of representative trends and authors. Mr. Hulet

140A-140B. Luso-Brazilian Literature in Translation.

140A. Portuguese Literature. Class reading and analysis of selected works in translation. Classroom discussion, papers and examinations will be in English. Meets three times weekly. Mr. Dias

140B. Brazilian Literature. Class reading and analysis of selected works in translation. Classroom discussion, papers and examinations will be in English. Meets three times weekly. Mr. Hulet

199. Special Studies. (½ to 1 course) Prerequisite: consent of adviser and instructor. A maximum of two full courses may count toward the major. The Staff

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

SPEECH

(Department Office, 232 Royce Hall)

Donald Erwin Hargis, Ph.D., *Professor of Communication Studies.*
Waldo Woodson Phelps, Ph.D., *Professor of Speech.*
Harrison Manly Karr, Ph.D., *Emeritus Professor of Speech.*
Charles Wyatt Lomas, Ph.D., *Emeritus Professor of Communication Studies.*
Daniel Vandraegen, Ph.D., *Emeritus Professor of Speech.*
Ralph Richardson, Ph.D., *Associate Professor of Speech.*
Paul Irwin Rosenthal, Ph.D., *Associate Professor of Communication Studies.*

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Steven A. Doyle, *Lecturer in Speech.*
Eugenie Dye, Ph.D., *Lecturer in Speech.*
Marde S. Gregory, *Lecturer in Speech.*
Thomas E. Miller, *Lecturer in Speech.*
Sonya H. Packer, *Lecturer in Speech.*

The Department of Speech is in the process of being phased out and is no longer offering degree programs. The courses listed below are offered by the faculty as a service to the general instructional program of the University.

Lower Division Courses

1. Principles of Oral Communication. Prerequisite: Subject A. Theory and practice of informal public speaking, including selection of content, organization of ideas, language and delivery; practice in extemporaneous and manuscript speaking; training in critical analysis through reading and listening to contemporary speeches. The Staff

2. Public Speaking and Discussion. Prerequisite: course 1. A continuation of course 1, with special emphasis on group discussions, panels, symposia, debates, and formal public speaking. Critical analysis of speeches in both contemporary and historical settings. The Staff

Upper Division Courses

101. Introduction to Public Address. Analysis of rhetorical principles. Application to informative and persuasive speaking, to problem-solving discussion, and to the criticism of contemporary speeches. Open to upper division students who do not have credit for Speech 1 and 2. May not be counted as part of upper division major. The Staff

103. Phonetics of English. A study of the physical production and acoustic characteristics of the sounds of American English. Mr. Hargis

107. Principles of Argumentation. Analysis of propositions, tests of evidence, briefing. Study of hindrances to clear thinking, ambiguity of terms, and prejudices. The critical analysis of selected argumentative speeches. Mr. Miller

108. The Deliberative Process. The nature and function of deliberative speaking in public meetings and parliamentary bodies. Rules of parliamentary speaking. Parliamentary debate on public issues. Critical analyses of selected speeches. The Staff

109. Principles of Audience Analysis. Theory of audience analysis and adaptation. Preparation and delivery of the occasional speech. Mr. Phelps

112. Oral Interpretation of Literature. A study of the literary, aesthetic, and oral bases for the analysis of communication of (112A.) prose and (112B.) poetry. Mr. Hargis

113. Readers Theater. The concepts and practices of the oral interpretation of non-dramatic literature within the framework of the readers theater. Lectures, readings, reports, and performance practice. Mr. Hargis

137A-137B. American Public Address. Critical study of speeches by leading American orators. Relationships of speakers to issues and social movements of their day.

137A. Colonial period to 1865; 137B. 1865-1930. Mr. Richardson

138. Contemporary American Public Address. Critical study of American oratory from 1960 to the present with emphasis upon movements and issues including civil rights, Viet Nam and Watergate. Mr. Phelps

144. Speech and Community Action. Consent of the instructor required. An intensive laboratory-based, observation-oriented study of speech and communication practices of action groups, protest groups, and public officials involved with the metropolitan Los Angeles urban crises. Mr. Richardson

170. Rhetoric of Winston Churchill. An intensive study of the speeches of Winston Churchill during the wilderness years the 30's and during the wartime years. The background and the impact of these speeches also are examined. Mr. Phelps

171. The Rhetoric of Franklin Roosevelt. An intensive study of major speeches and fireside chats during Roosevelt's presidency. The background and the impact of these speeches also are examined. Mr. Phelps

172. Rhetoric of Harry S. Truman. An intensive study of the major speeches of President Harry S. Truman. The background and the impact of these speeches are examined in relation to the social and political context of the Truman years.

175. The Speeches of Abraham Lincoln. Students will be introduced to the full span of Lincoln's speaking career. His methods of preparation, the influence of associates, his style, his delivery, and lastly, his effect upon the nation will be studied. Mr. Richardson

190A-190B. Forensics. (½ course each) Prerequisite: consent of the instructor. May be repeated once for credit. The Staff

191. Analysis and Briefing. (½ course) Intensive study of selected political or social issues; preparation of bibliography; analysis and evaluation of issues and arguments. May be repeated once for credit. The Staff

197. Proseminar in Rhetoric. A variable topic course involving intensive study of discourse associated with a single major issue or personality. Senior standing or consent of instructor. Mr. Phelps

199. Special Studies. (½ to 1 course) Prerequisite: senior standing and consent of instructor. The Staff

STATISTICS

Studies in statistics and related areas are possible in various academic departments. Detailed information may be found in the announcements of the individual departments listed below.

Anthropology

Course in statistical methods.

Architecture and Urban Planning

Quantitative methods in statistics.

Biomathematics

Introductory and advanced courses in Biomathematics including stochastic modeling in biology. M.S. and Ph.D. degrees.

Dentistry

Elementary statistics course.

Economics

Upper division and graduate offerings in econometrics.

Education

Graduate offerings in experimental design and in measurement.

Engineering

Upper division and graduate offerings in statistics and probability.

Geography

Quantitative methods in statistics.

Management

Master of Science and Ph.D. degree programs with specialization in business statistics offered by the Quantitative Methods Division.

Mathematics

Probability and statistics available as a field in the Ph.D. program in mathematics and the applied mathematics program.

Pharmacology

Bioassay.

Political Science

Upper division course in quantitative methods.

Psychology

Course work in statistics, factor analysis, scaling.

Public Health

Introductory and advanced courses in biostatistics. A Master of Science and Ph.D. degree in Biostatistics are given by the Biostatistics Division. An M.P.H. and Dr. P.H. with concentration in Biostatistics are given by the School of Public Health.

Social Welfare

Survey research statistics.

Sociology

Offerings in statistics, measurement, demography.

SUBJECT A REQUIREMENT

(Department Office, 302 Royce Hall)

Everett L. Jones, M.A., *Director of Freshman English.*

Subject A

Every student who does not satisfy the Subject A requirement by presenting transfer credit or by passing an acceptable examination is required to take, in the quarter immediately following his admission to the University, either English A or English 1. Placement in these courses is determined by performance on the Subject A Placement Test.

THEATER ARTS

(Department Office, 2310 Macgowan Hall)

William B. Adams, M.A., *Professor of Theater Arts.*
John R. Cauble, M.A., *Professor of Theater Arts.*
Shirley M. Clarke, A.A., *Professor of Theater Arts.*
Robert F. Corrigan, M.A., *Professor of Theater Arts.*
Donald B. Crabs, M.A., *Professor of Theater Arts.*
Arthur B. Friedman, Ph.D., *Professor of Theater Arts.*
Henry Goodman, Ph.D., *Professor of Theater Arts.*
Richard C. Hawkins, M.A., *Professor of Theater Arts.*
Melvyn B. Helstien, Ph.D., *Professor of Theater Arts.*
Walter K. Kingson, Ed.D., *Professor of Theater Arts.*
Frank D. LaTourette, M.Litt., *Professor of Theater Arts.*
Louis C. Stoumen, B.A., *Professor of Theater Arts.*
Abe V. Wollock, Ph.D., *Professor of Theater Arts.*
John W. Young, M.A., *Professor of Theater Arts (Chairman of the Department).*
Robert E. Lee, D.Litt., *Adjunct Professor of Theater Arts.*
Walden P. Boyle, Ph.D., *Emeritus Professor of Theater Arts.*
Michael Gordon, M.F.A., *Emeritus Professor of Theater Arts.*
Hugh J. Gray, Ph.D., *Emeritus Professor of Theater Arts.*
Edward Hearn, M.A., *Emeritus Professor of Theater Arts.*
John H. Jones, M.A., *Emeritus Professor of Theater Arts.*
William W. Melnitz, Ph.D., *Emeritus Professor of Theater Arts.*
Darrel E. Ross, M.F.A., *Emeritus Professor of Theater Arts.*
William Froug, B.J., *Associate Professor of Theater Arts.*
Gary A. Gardner, Ph.D., *Associate Professor of Theater Arts.*
Robert H. Hethmon, Ph.D., *Associate Professor of Theater Arts.*
Dan F. McLaughlin, M.A., *Associate Professor of Theater Arts.*
Stephen D. Mamber, Ph.D., *Associate Professor of Theater Arts.*
William H. Menger, M.A., *Associate Professor of Theater Arts.*
Carl R. Mueller, Ph.D., *Associate Professor of Theater Arts.*
Delia N. Salvi, Ph.D., *Associate Professor of Theater Arts.*
Ruth E. Schwartz, Ph.D., *Associate Professor of Theater Arts.*
Howard Suber, Ph.D., *Associate Professor of Theater Arts.*
William D. Ward, M.F.A., *Associate Professor of Theater Arts.*
William T. Wheatley, Ph.D., *Associate Professor of Theater Arts.*
Theodore Apstein, Ph.D., *Adjunct Associate Professor of Theater Arts.*
Nicholas K. Browne, Ed.D., *Visiting Associate Professor of Theater Arts.*
Joanne T. McMaster, M.F.A., *Assistant Professor of Theater Arts.*
Sylvia E. Moss, B.A., *Assistant Professor of Theater Arts.*
Jorge R. Preloran, B.A., *Assistant Professor of Theater Arts.*
Richard Walter, M.A., *Assistant Professor of Theater Arts.*
Margaret L. Wilbur, M.F.A., *Assistant Professor of Theater Arts.*

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Alan M. Armstrong, M.F.A., *Lecturer in Theater Arts.*
John D. Boehm, M.A., *Lecturer in Theater Arts.*
Robert Bookman, J.D., *Lecturer in Theater Arts.*
Edgar L. Brokaw, B.A., *Lecturer in Theater Arts.*
Ivan N. Cury, M.F.A., *Lecturer in Theater Arts.*
Gordon Davidson, M.A., *Lecturer in Theater Arts.*
Anthony DeLongis, B.A., *Lecturer in Theater Arts.*
Teshome H. Gabriel, Ph.D., *Lecturer in Theater Arts.*
Hugh M. Grauel, M.A., *Lecturer in Theater Arts.*
Leonard Jerome Guardino, B.S., *Lecturer in Theater Arts.*
H. Peter Guber, LL.M., *Lecturer in Theater Arts.*
Michael J. Hackett, B.A., *Lecturer in Theater Arts.*
Patricia M. Harter, M.A., *Lecturer in Theater Arts.*
John Ingle, M.A., *Lecturer in Theater Arts.*
Mark McCarty, M.A., *Lecturer in Theater Arts.*
Michael S. McLain, M.F.A., *Lecturer in Theater Arts.*
Valerie Mamches, M.A., *Lecturer in Theater Arts.*
Robert A. Nakamura, M.F.A., *Lecturer in Theater Arts.*
Thomas J. Orth, M.F.A., *Lecturer in Theater Arts.*
Beverly J. Robinson, M.A., *Lecturer in Theater Arts.*
Richard S. Rose, M.F.A., *Lecturer in Theater Arts.*
Robert Rosen, M.A., *Lecturer in Theater Arts.*
Robert Trachinger, *Lecturer in Theater Arts.*
Frank A. Valert, *Lecturer in Theater Arts.*
George Van Buren, *Lecturer in Theater Arts.*

The Department of Theater Arts bases its work in theater, motion pictures, and television on a solid foundation in the liberal arts. The purpose of the curriculum is to develop in its students a scholarly, creative and professional approach to the theater arts. The aim of the Department is to train graduates who will eventually make original contributions in the field of their work.

The student majoring in theater arts must complete the requirements of the College of Fine Arts and the requirements under one of the two majors: theater, motion picture/television.

Preparation for the Major

Theater. Courses 5A-5B-5C, 10, 20 and English 90.

Motion Picture/Television. Students electing to specialize in motion picture/television for their B.A. degrees should complete the general University and College of Fine Arts Requirements before entering the program.

The Major

Theater. Courses 130A, 140A, 141A, 142A, 143A, 160A, 170, 172 (repeated four times), two units chosen from 122, 144A, 146, 149A, 174, 190A or 190B; and 24 units of approved upper division Theater Arts electives, to bring the total to 60 upper division units. Through certain required courses listed above, all students during each quarter of residence are responsible for completing specific production assignments related to production activity of the Theater curriculum.

Motion Picture/Television. Admission to this major is not automatic. Applicants may not apply until just prior to achieving full status as a Junior in the University. They must obtain departmental permission by 1) filing a letter of intention; 2) giving evidence of creative or critical ability when requested; 3) and providing additional material as determined by the department.

No student in Motion Picture/Television may begin the major, consisting of 60 upper division units, before the Junior year, and during their Junior and Senior years they must take 108, 134, 179A (double course), and one of the following television courses: 180B, 184A, 184B, 184C, 185, 187A, 187B, or 187C, plus 2 courses selected from 106A, 106B, 106C, 106D, 106E, 110A and 110B, and one upper division course chosen from the history, theory, and/or criticism course listings in Theater Arts. It is recommended that the majority of these required courses be completed during the Junior year.

In addition to the required courses, students must take a minimum of 28 units of upper division Motion Picture/Television electives which may include advanced classes in the fields of filmmaking, writing, animation, television production, news and documentary, and critical studies. Students must consult with the Department undergraduate counselor to plan a program. Admission to advanced classes frequently requires consent of the instructor or senior standing. The student should be mindful of the exigencies inherent in filmmaking and be prepared to meet the additional demands of time and costs.

NOTE: Students are required to perform assignments on each other's projects. In addition, the Department of Theater Arts reserves the right to hold for its own purposes, examples of any work done in classes and to retain for distribution such examples as may be selected.

Note: Check the Schedule of Classes for courses restricted to majors only.

Italian Majors please note under Italian Department listing for Area Studies in Theater courses.

Lower Division Courses

THEATER AREA

5A. History and Drama of the Theater from Primitive Times to 1640. Lecture, three hours; discussion, one hour. Required of theater majors. The history of the influence of different cultures, traditions and technologies on the development of theater as a social institution.

5B. History and Drama of the Theater from 1640 to 1900. Lecture, three hours; discussion, one hour. Required of theater majors. The history of the influence of different cultures, traditions and technologies on the development of theater as a social institution.

5C. History and Drama of the Theater from 1900 to the Present. Lecture, three hours; discussion, one hour. Required of theater majors. The history of the influence of different cultures, traditions and technologies on the development of theater as a social institution.

10. Fundamentals of Theater Production. Lecture, three hours; laboratory, three hours. Required in the first quarter of residency for theater arts majors specializing in theater. A basic study of the relationship of acting, stage management, scenery, lighting, costume and sound to the production of the play. Emphasis will be placed on the planning, procedures, materials, equipment and disciplines of theater production.

20. Acting Fundamentals. Lecture/laboratory, four hours. Required of theater majors. An introduction to the interpretation of drama through the art of the actor. Development of individual insights, skills, and disciplines in the presentation of dramatic material to an audience.

Upper Division Courses

THEATER AND GENERAL SECONDARY CREDENTIAL AREAS

100. The Teaching of Theater. Lecture, three hours. Prerequisites: 160A and 160B or consent of instructor. Study of current methods and problems of production as related to the secondary level. Highly recommended for students pursuing a secondary teaching credential. Mr. Ingle

101. Introduction to Theater Arts. (½ course) Lecture, two hours; laboratory, two hours. Not open for credit to theater arts majors. A survey of theater, motion pictures, television and radio, together with critical analysis of their roles in contemporary culture, leading to an appreciation and understanding of the theater arts. A nontechnical presentation

NOTE: For key to symbols, see pages 65 and 66

for the general student. To be taken on a Pass/Not Pass basis only.

102A. Selected Topics on the History of the European Theater. Lecture, three hours. Prerequisite: course 5A or the equivalent and/or consent of the instructor. An investigation in depth of a selected area of study in theater history from the Greeks through the Renaissance. May be repeated for a maximum of 12 units of credit. Mr. Mueller

102B. Selected Topics on the History of the European Theater. Lecture, three hours. Prerequisite: course 5B or the equivalent and/or consent of the instructor. An investigation in depth of a selected area of study in theater history from the Baroque to the present. May be repeated for a maximum of 12 units of credit. Mr. Goodman

102D. History of the European Theater. Lecture, three hours. Prerequisite: consent of the instructor. A survey of the development of the theater from the Greeks to the present. May not be taken for credit by students who have had more than one course from the 5A, 5B, and 5C series.

102E. Theater of the Non-European World. Lecture, three hours; discussion, one hour. A survey of theater forms of the non-European world in which primary attention will be concentrated on an examination and analysis of the traditional dance-drama and puppet theaters of East Asia, Southeast Asia, South Asia, the Middle East and Africa. Analogous forms from European theater will be included for comparative purposes. Mr. Helstien

103A. Black People's Theater in America, Slavery to 1930. Lecture, three hours. An exploration of all extant materials on the history and literature of the theater developed and performed by Black artists in America from Slavery to 1930. Ms. Robinson

103B. Black People's Theater in America, 1930 to the Present. Lecture, three hours. An exploration of all extant materials on the history and literature of the theater as developed and performed by Black artists in America from 1930 to the present. Ms. Robinson

104A. History of the American Theater. Lecture, three hours. The history of the American theater from the Revolutionary War to WWI. Mr. Hethmon

104B. History of the American Theater. Lecture, three hours. The history of the American theater from WWI to the present. Mr. Hethmon

105. Main Currents in Theater. Lecture, three hours. Critical examination of the leading theories of theater from 1887 to the present. Study and discussion of modern styles of production. Mr. Mueller

117. The Puppet Theater. (½ course) Lecture/laboratory, four hours. Prerequisite: consent of the instructor. Study of the history and practice of the art of puppetry. An examination of the materials and methods of construction. Staging of puppet productions as laboratory practice. May be repeated for a maximum of six units credit. Mr. Helstien

118A. Creative Dramatics. Lecture/laboratory, four hours. Studies of the principles and procedures of the improvisational approach to drama as done with children from nursery school to Junior High.

118B. Advanced Creative Dramatics. (½ course) Discussion, one hour; laboratory, two hours. Prerequisites: course 118A or consent of instructor. Practical application of the methods and principles introduced in 118A. May be repeated for a maximum of six units.

119. Theater for the Child Audience. Lecture/laboratory, four hours. Principles of production and performance for the child audience.

120. Acting for the Stage. Lecture/laboratory, four hours. Prerequisites: course 20 and consent of instructor. Study and practice of the art of acting through scenes from dramatic literature throughout the ages. The total number of units from 120 and 137A-137B-137C may not exceed 16 units.

122. Make-up for the Stage. (½ course) Studio, two hours. The art of make-up and its relation to the production as a whole. History, aesthetics, materials, and procedures of make-up.

124. Voice for the Stage. Lecture/laboratory, six hours. Prerequisite: consent of instructor. Development of voice techniques for the stage. Includes work on relaxation, limbering, breathing, articulators, and resonators. Ms. Wilbur

125A.Movement for the Actor. (Formerly numbered 125.) Laboratory, six hours. Prerequisite: consent of instructor. Physical awareness for the actor, concentrating on warming up the body, relaxation, control, stunts and gymnastics. Not open to students who have received credit for 125. Mr. Orth

125B. Advanced Movement for the Actor. Lecture/laboratory, four hours. Prerequisites: 125A and consent of instructor. An advanced and contemporary approach to classical and modern movement for the stage actor. Not openfor credit to students who have received credit for 125. Mr. Orth

130A. Fundamentals of Playwriting I. Lecture, three hours. Required of theater majors. Course designed to stimulate the student's critical and creative faculties through the preparation of original material for the theater. Guidance in the completion of a one-act play. Mr. Gardner

130B. Fundamentals of Playwriting II. Lecture, three hours plus conference. Prerequisites: course 130A and consent of writing staff. Study in original material for the theater, its preparation and development. The course is designed to give further insight into the critical and creating aspects of the short and full-length play and guidance in the completion of the one act and full-length play. May be repeated for a maximum of twelve units credit.

132. Manuscript Evaluation for the Theater. Lecture, three hours. Prerequisite: course 130A and consent of the instructor. May be repeated for a maximum of eight units. Principles and practices in the evaluation of manuscripts for theater.

136. Intermediate Acting for the Stage. Lecture/laboratory, four hours. Prerequisites: course 20, upper division standing and consent of instructor. Designed for students as an evaluation course for entrance into the continuum course in acting.

137A-137B-137C. Continuum Study in Acting for the Stage. Lecture/laboratory, four hours. Prerequisite: consent of instructor. The technique of characterization and performance in advanced and complex acting styles.The total number of units from 120 and 137A-137B-137C may not exceed 16 units.

138. Special Problems in Performance Techniques. Lecture/laboratory, four hours. Prerequisite: consent of instructor. Study of complex problems in voice, movement and acting. May be repeated for a maximum of 12 units.

140A. Scenic Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. Required of theater majors. An intensive study of scenic materials, construction techniques, production organization and the rigging of scenery. (Courses 140A, 141A and 142A may be taken in any sequence, but not concurrently.)

140B. Advanced Scenery for the Stage. Lecture/laboratory, four hours. Prerequisite: course 140A. Advanced study of technical problems in staging theater productions, including design analysis and planning related to rigging, shifting and construction techniques.

141A. Lighting Techniques for the Stage. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. (Courses 141A, 140A, and 142A may be taken in any sequence, but not concurrently.) Required of theater majors. An intensive study of theater lighting with emphasis on the relationship of lighting instruments and control equipment to lighting design. Mr. Ward

141B. Advanced Lighting for the Stage. Lecture/laboratory, four hours. Prerequisite: course 141A. The detailed study of stage lighting as an art, with emphasis given to design concepts. The interpretation of a script or score through the control of light and color in relation to actor and audience. Mr. Crabs, Mr. Ward

142A. Theater Costuming Techniques. Lecture, three hours; laboratory, six hours. Prerequisites: course 10 and consent of instructor. (Courses 142A, 140A, and 141A may be taken in any sequence, but not concurrently.) Required of theater majors. The study of costumes analysis and the interpretation of theatrical costume design through the use of patterns, fabrics, and related costume materials. Ms. Moss

142B. Advanced Costuming for the Stage. Lecture, three hours; laboratory, four hours. Prerequisite: course 142A or consent of the instructor. Special problems in the procuring, designing, construction and management of costumes used in theatrical productions. Ms. Moss

143. Scenic Design for the Theater. (½ course) (Formerly numbered 143A.) Lecture, two hours. Prerequisites: course 10 and consent ofinstructor. Required of theater majors. Basic prinicples of design as applied to the interpretation and presentation of the visual aspects of dramaturgy. Study of styles, techniques and methods of design for the theater arts. The translation of ideas into visual forms. Not open for credit to students who have received credit for 143A or 143B. Mr. Corrigan, Mr. Crabs

144A. Theater Sound Techniques. (½ course) Lecture, two hours; laboratory, two hours. Prerequisite: course 10 or approved equivalent. A study of the equipment and techniques utilized in the recording and reproduction of sound for the theater. Mr. Ward

144B. Advanced Theater Sound. Lecture, three hours; laboratory, four hours. Prerequisite: course 144A or consent of the instructor. A detailed study of theater sound with emphasis on the composition and execution of theater sound tracks, recording techniques, and acoustic reinforcement. Mr. Ward

145. Costume Design for Theater. Lecture/laboratory, four hours. Prerequisite: consent of the instructor. Design of costumes for theatrical presentations. The study of the use of silhouette, fabrics, color, and decoration as related to theatrical characterizations.

146. Scene Painting Techniques. (½ course) (Formerly numbered 146B.) Lecture/laboratory, three hours. Prerequisite: consent of the instructor. The study of scenic painting techniques and materials, and their relation to the realization of color design and elevations. May be repeated once for credit. Maximum credit: four units. Mr. Corrigan, Ms. McMaster

148. Special Courses in Design and Technical Theater. Lecture, three hours. Prerequisite: consent of the instructor. Group study of selected subjects in design and technical theater. May be repeated for a maximum of 12 units.

149A. Basic Drafting Techniques for the Stage. (½ course) Lecture/laboratory, four hours. Prerequisite: course 10 or consent of instructor. Studies of the basic skills and techniques of drafting for the stage, through the execution of floor plans and elevation drawings. Mr. Ward

149B. Advanced Drafting for Theater Arts. Lecture/laboratory, four hours. Prerequisite: course 149A or consent of instructor. An advanced course in the technical sketching and drafting of working drawings essential in the development of the design of sets and properties for theater, television and motion picture productions. Mr. Corrigan

160A. Fundamentals of Play Direction. Lecture/laboratory, four hours. Required of theater majors. Basic theories of play direction and their application through the preparation of scenes under rehearsal conditions. Mr. Helstien

160B. Intermediate Play Direction. Lecture/discussion, two hours; laboratory, eight hours. Prerequisite: course 160A and consent of the instructor. A course in the application of stage direction techniques to the one-act play. Each student will direct a one-act play to be performed under rehearsal conditions. Material will be drawn from published sources. Not open for credit to students who have had two units of credit from 160B.

161. Advanced Play Direction. Lecture, four hours; laboratory, six hours. Prerequisites: course 160A and consent of the instructor. Special problems in the direction of original one-act plays under production conditions. May be repeated for a maximum of eight units credit, with consent of the instructor.

170. Theater Laboratory. Lecture, four hours; laboratory, eight hours. Prerequisites: courses 140A, 141A, 142A, and 143A. Required of theater majors. Laboratory in theater production under supervision. The translation of ideas and concepts into the dramatic form.

171A. Advanced Theater Laboratory. (½ or 1 course) Hours to be arranged. Prerequisite: consent of the instructor. May be taken for a maximum of one course. Creative participation as an actor or stage manager in the public presentation of departmental productions.

171B. Advanced Theater Laboratory. (½ or 1 course) Hours to be arranged. Prerequisite: consent of the instructor. May be taken for a maximum of one course. Creative participation in the realization of production elements related to the public presentation of department productions.

172. Technical Theater Laboratory. (½ course) Hours to be arranged. Prerequisite: consent of the instructor. Required of theater majors. A laboratory in various aspects of theater production. The student must repeat the course for a total of 8 units. No assignment may be repeated more than once. Maximum 8 units. Concurrent scheduling with TA 272ABC and TA 472.

174. Techniques of Stage-Managing. (½ course) Lecture, two hours. The professional duties of the stage manager. The problems of unions, professional auditions, organization, scheduling, out-of-town openings, Broadway openings, and the responsibilities of a lengthy run.

190A. The Role of the Producer in the Professional Theater. (½ course) Lecture, two hours. A study of the structure governing the economic and artistic decision-making processes in the professional theater of America. Mr. Cauble

190B. The Role of Management in the Educational and Community Theater. (½ course) Lecture, two hours. A study of the artistic, social and economic criteria in the administration of educational and community theater. Mr. Cauble

191. The Touring Company. (2 or 3 courses) Lecture, 20 hours; laboratory, 22 hours. Prerequisite: consent of instructor. Rehearsal and technical preparation of a theatrical work for touring, and the performance of that work on tour.

MOTION PICTURE/TELEVISION AREAS

***15106A. History of the American Motion Picture.** Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. An historical and critical survey, with examples, of the American motion picture both as a developing art form and as a medium of mass communication. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content.

***15106B. History of the European Motion Picture.** Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. An historical and critical survey, with examples, of the European motion picture both as a developing art form and as a medium of mass communication. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content.

106C. History of African, Asian and Latin American Film. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A critical, historical, aesthetic and social study together with an exploration of the ethnic significance of Asian, African, Latin American and Mexican films.

106D. The Development of Film in Europe and the United States: From WWI through the Depression. Lecture/screening, eight hours; discussion, one hour. Prerequisite: consent of instructor. An interdisciplinary and comparative approach to the development of film in Europe and the United States from the silent era through the depression. Particular stress will be given to the interrelationship of film with its historical context and to the social dimensions of film structure, aesthetics, and language. (Part of two quarter sequence, that can be taken jointly or separately.) Not open for credit to students who have taken 198B in Winter Quarter, 1975.

106E. The Development of Film in Europe and the United States: From WWII to the Present. Lecture/screening, eight hours; discussion, one hour. Prerequisite: consent of instructor. An interdisciplinary and comparative approach to the development of film in Europe and the United States from the end of the 30's through the present. Particular stress will be given to the interrelationship of film with its historical context and to the social dimension of film structure, aesthetics, and language. (Part 2 of the two quarter sequence, but may be taken separately.) Not open for credit to students who have taken 198C in Spring Quarter, 1975.

107. Experimental Film. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A study and analysis of unconventional developments in the motion picture.

108. History of Documentary Film. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of instructor. The philosophy of the documentary approach in the motion picture. The development of critical standards, and an examination of the techniques of teaching and persuasion used in selected documentary, educational, and propaganda films.

110A. History of Broadcasting. Lecture/viewing, six hours; discussion, one hour. Prerequisite: consent of instructor. Critical survey of broadcasting here and abroad. Consideration of the social responsibilities and educational implications of broadcasting. Not open for credit if student has credit for 110. Ms. Schwartz

110B. Problems and Issues in Broadcast Media. Lecture, four hours; discussion, two hours; laboratory, to be arranged. Prerequisite: consent of instructor. Study of the current issues and problems related to public and commercial broadcast programming and management, including analysis of contemporary criticism of the broadcast media. Open for credit if student has credit for 110. Ms. Schwartz

111. Film Distribution and Exhibition. Lecture, three hours; laboratory, to be arranged. Prerequisite: consent of instructor. History and theory of organization of theatrical and nontheatrical distribution and exhibition of motion pictures and analysis of their interrelationships with production practices.

112. Film and Social Change. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. The development of documentary and dramatic films in relation to and as a force in social development.

***15113. Film Authors.** Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content. A study in depth of a specific film author (director or writer).

***15114. Film Genres.** Lecture and screening, six hours; discussion, one hour. Prerequisite: Consent of the instructor. May be repeated for credit with departmental consent (maximum 2 courses). *Determined on basis of change in course content. Study of a specific film genre, e.g., the Western, the gangster cycle, the musical, the silent epic, the comedy, the social drama.

115. Producers and Their Films. Lecture and screening, six hours; discussion, one hour. Prerequisite: consent of the instructor. A consideration of the individual or corporate producers as they have affected the art and industry of the motion picture. Course content will vary, considering the work of a studio such as Paramount, Metro-Goldwyn-Mayer, Warner Brothers, etc. or of an individual such as Samuel Goldwyn, Stanley Kramer, Hal Wallis, etc. May be repeated for credit (maximum 2 courses).

***15116. Criticism.** Lecture, four hours; laboratory, to be arranged. May be repeated for credit (maximum 2 courses) with departmental consent. *Determined on basis of change in course content. Study of and practice in criticism for the theater, motion pictures and television.

126A. Advanced Acting for Television and Motion Pictures. Laboratory, six hours. Prerequisite: course 20 or consent of the instructor. Projects in acting for television and motion pictures. Video tape recording of selected acting exercises and readings. May be repeated for credit for a maximum of 12 units. Mr. Friedman

126B. Broadcast Speech. Laboratory, six hours. Field visits as required. Prerequisite: consent of instructor. Intensive study of effective speech for the performer in Television and Radio. Audio and television recordings of selected individual and group readings. Playbacks, analysis and criticism. May be repeated for a maximum of 12 units. Mr. Friedman, Mr. Kingson

126C. Sportscasting. Lecture, two hours; laboratory, four hours. Prerequisite: consent of instructor. Intensive study of Sportscasting; laboratory emphasis on studio and field training; videotaping and playback of straight sportscasts, play by play, color, interviews, commentary and editorials. Students required to write original material for all exercises. Extensive training re hand-held field equipment; use of the remote truck. Field exercises. Students rotate in production positions. May be repeated for a maximum of 12 units. Mr. Friedman

127. The Film Image. Lecture, one hour; discussion, two hours; laboratory, one hour. Prerequisite: course 179A and consent of the instructor. Proseminar in the craft of film aesthetics. The Visual Revolution. Biophysical nature of perception. Lenses, perspective, graphic styles. Principles of composition, screenwriting, sound, editing. Problems of time and movement. How a director views his work and his world. Mr. Stoumen

131. Non-Theatrical Motion Picture/Television Writing. Discussion, three hours. Prerequisites: 179A and/or consent of instructor. A course in the research and writing of documentary, technical, educational, industrial and propaganda scripts. May be repeated for a maximum of three courses. Mr. Adams

134. Motion Picture/Television Writing. Discussion, three hours. Prerequisites: restricted to Motion Picture/Television majors and consent of instructor. Introduces students to problems in motion picture/television writing.

135. Advanced Motion Picture/Television Writing. (2 courses) Discussion, three hours. Prerequisite: course 134 and/or consent of instructor. A course in motion picture/television writing offered each quarter. Original motion picture/television material to be developed. May be repeated for a maximum of 24 units.

150A. Basic Motion Picture/Television Photography. Lecture, three hours; laboratory, four hours. Prerequisites: course 179A, restricted to Motion Picture/Television majors. Introduction to image control in film photography through exposure,

NOTE: For key to symbols, see pages 65 and 66

lighting, and selection of film, camera, and lens. Supervised projects in photography to complement material covered in the lecture. Mr. Valert

150B. Advanced Motion Picture/Television Photography. Lecture, three hours; discussion, one hour, laboratory, eight hours. Prerequisites: course 150A, and consent of instructor; restricted to Motion Picture/Television majors. Supervised exercises in studio and location film photography to develop skill in lighting and management of the photographic process as applied to motion pictures and television. May be repeated for a maximum of 12 units. Mr. Valert

151. Design for Motion Pictures and Television. Lecture, three hours; laboratory to be arranged. Prerequisites: course 179A and consent of instructor; restricted to Motion Picture/Television majors. The techniques of art direction. If the course is repeated, the student is required to design and complete a short film. May be repeated for a maximum of 12 units.

152A. Motion Picture/Television Sound Recording. Lecture, three hours; laboratory, to be arranged. Prerequisites: course 179A and one course chosen from 154AB or C; restricted to Motion Picture/Television majors. Introduction to principles and practices of motion picture and television sound recording, including supervised exercises. Mr. Adams

152B. Motion Picture/Television Sound Re-Recording. Lecture, three hours; laboratory, five hours. Prerequisites: course 179A and one course chosen from 154AB or C; restricted to Motion Picture/Television majors. Introduction to re-recording studio procedures including track and cue sheet preparation, and responsibilities and functions of the re-recording mixer. Course includes supervised practical exercises. May be repeated for a maximum of 12 units. Mr. Adams

153C. Color Cinematography. Lecture, three hours. Prerequisite: consent of instructor. History and theories of color photography with emphasis on present-day methods in motion picture and television production. A comparative study of additive and subtractive systems as employed by Technicolor, Ansco, Kodak, and others. Mr. Trimble

154A. Motion Picture/Television Editing. Lecture, three hours; laboratory, to be arranged. Prerequisites: course 179A, restricted to Motion Picture/Television majors. A study of the role of editing the fictional and nonfictional production with emphasis on the techniques and procedures used in manipulation of the visual image for both dynamic and continuity effects. Mr. Brokaw

154B. Motion Picture/Television Editing. Lecture, three hours; laboratory, to be arranged. Prerequisites: course 179A, restricted to Motion Picture/Television majors. A study of the role of editing the fictional and non-fictional production with emphasis on the techniques and procedures used in manipulation of the sound track in sync dialog cutting, post-syncing, and music and sound effects cutting, including offscreen narration, dialogue substitution and playback tracks. Mr. Brokaw

154C. Motion Picture/Television Editing. Lecture, three hours; laboratory, to be arranged. Prerequisites: course 179A, restricted to Motion Picture/Television majors. A study of the role of editing the fictional and non-fictional production with emphasis on the finishing stages including title preparation, the use of optical effects and blowups, preparation for the supervision of the mix, and the cutting of originals for single strand and A&B printing. Mr. Brokaw

163. Direction of Actors for Motion Pictures/Television. Laboratory, six hours. Prerequisites: course 179A and consent of the instructor. Exercises in analysis of script and character for the purpose of directing actors in motion picture and television productions. Emphasis on eliciting the best possible performance from the actor. May be repeated for a maximum of 12 units credit. Ms. Salvi

164. Direction for Motion Pictures. Laboratory, to be arranged. Prerequisites: course 179A and consent of the instructor. A study of the problems faced by a motion picture director and various approaches to their solution. May be repeated for a maximum of 12 units credit.

165. Direction for Television. Laboratory, six hours. Prerequisites: courses 134, 179A, 185 and 186A. Instruction and supervised exercises in television direction with emphasis on the creative use of cameras, sound, composition, and communication with those in front of and behind the camera. May be repeated for credit; maximum three courses.

179A. Film Project 1. (2 courses) Hours, to be arranged. Prerequisites: junior standing and completion of all lower division requirements of the University and the College of Fine Arts. Restricted to the Motion Picture/Television majors. The completion of a first film, including its writing, production and editing. Required in the Motion Picture/Television major. Production Faculty

179B. Motion Picture Production. (1, 2 or 3 courses) Hours to be arranged. Prerequisites: course 179A and consent of Production Faculty. The completion of a motion picture production, including its writing, production and editing. May be repeated for a maximum of 16 units. Production Faculty

179D. Motion Picture Production. Hours, to be arranged. Prerequisites: courses 179A and 179B and consent of the instructor. A course to augment the production skills of students demonstrating difficulties in basic techniques. May not be repeated. May not be applied to the major. Production Faculty

179E. Motion Picture/Television Production. (1 or 2 courses) Hours to be arranged. Prerequisites: course 179A and consent of instructor. Completion of a group film or videotape production with three or more students collectively responsible for its conception, writing, direction and production.

180A-180B-180C. Workshop in Broadcast News and Documentary. Discussion, three hours; laboratory, five hours. Prerequisites: consent of the instructor. Instruction and supervised exercises in writing, reporting, editing, and producing radio and television news, public affairs, and documentary programs. Mr. LaTourette

181A. Animation Design in Theater Arts. Lecture, three hours; laboratory, three hours. Prerequisite: consent of the instructor. History and use of speech, rhythm, and graphic design to form effective communication on film. Mr. McLaughlin

181B. Writing for Animation. (1 or 2 courses) Lecture, six hours; laboratory to be arranged. Prerequisites: course 181A, consent of the instructor and a storyboard at the first class meeting. Research and practice in creative writing and planning for the animated film. May be repeated for credit; maximum four courses (16 units). Mr. McLaughlin

181C. Animation Workshop. (1 or 2 courses) Lecture, six hours; laboratory to be arranged. Prerequisites: course 181A, consent of the instructor and a storyboard at the first class meeting. Organization and integration of the various creative arts used in animation to form a complete study of a selected topic. May be repeated for credit; maximum four courses (16 units). Mr. McLaughlin

184A-184B-184C. Community Television Programming and Management. Laboratory, eight hours. Prerequisite: consent of the instructor. Supervised operation and programming of a community television station. Class participation in semi-weekly campus broadcasts. Mr. LaTourette

185. Television Production. Laboratory, eight hours. Prerequisite: consent of instructor. Instruction and supervised exercises in the basic technique of using cameras, lighting, and sound in the production of television programs.

186A-186B-186C. Television Laboratory. (1 or 2 courses) Laboratory, to be arranged. Prerequisites: one course chosen from 180B, 184A, 184B, 184C or 185 and consent of the instructor. The conception, direction, and production of an original television program.

187A-187B-187C. Remote Television Broadcasting. (1 course each) Laboratory, three hours plus additional hours to be arranged. Prerequisite: one course chosen from 180A, 184A, 184B, 184C or 185 and consent of instructor. Instruction and supervised exercises in the planning and production of remote on-location television programs. Mr. Trachinger

188. The Aesthetics of Visual Communication. Lecture, three hours. Prerequisites: upper division standing and consent of instructor. An introduction to the study of communication in art, with an emphasis on the problem of aesthetic perception and its proper role in the experience of contemporary visual arts.

189. Overview of the Motion Picture Industry. Discussion, three hours. Prerequisite: consent of instructor. Evolution of economic and business structure of Motion Pictures from early beginnings to present, stressing methods of operation and the influence of social and economic pressures that contributed to the changing financial, distribution and exhibition practices. Mr. Grauel

192. Motion Picture and Television Internship. (1 or 2 courses) Laboratory, ten or 20 hours weekly; field experience. Prerequisite: consent of instructor. An internship at various film and television studios accentuating the creative contribution, the organization, and the work of professionals in their various specialties. May be repeated once for a maximum of 12 units.

193A. Film Curatorship. Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisite: consent of the instructor. Study of the principles and techniques of film curatorship and research, including but not limited to acquisitions, cataloguing, storage and retrieval systems. Special attention will be devoted to the application of new technology, equipment, and program materials to film archival-library design for research and teaching.

193B. Television Curatorship. Lecture, two hours; discussion, two hours; laboratory, four hours. Prerequisites: consent of the instructor. Study of the principles and techniques of television curatorship and research, including but not limited to acquisitions, cataloguing, storage and retrieval systems. Special attention will be devoted to the application of new technology, equipment, and program materials to television archival-library design for research and teaching. Ms. Schwartz

195. Independent Production of Feature Films. Lecture, three hours. Prerequisite: course 189 and consent of instructor. Survey of financial and business aspects involved in packaging, distributing and exhibiting motion pictures today from the various perspectives of prominent industry leaders. May be repeated for credit (maximum 2 courses) with department consent.*

*Determined on basis of change in instructors.

SPECIAL STUDIES FOR ALL SPECIALIZATIONS

199. Special Studies in Theater Arts. (½ to 2 courses) Hours to be arranged. Prerequisites: senior standing, 3.0 GPA in major and consent of the instructor. May be repeated for a total of two courses.

Graduate Courses

For complete descriptions of graduate level courses offered by this department, please consult the Graduate Catalog.

Related Courses in Other Departments

Classics 142. Ancient Drama.

Dance 152A. Lighting Design for Dance Theater.

152B. Costume and Scenic Design for Dance Theater.

English 10A-10B-10C. English Literature.
90. Shakespeare.
112. Children's Literature.
135A-135B-135C. Creative Writing: Drama.
167. The Drama, 1842 to the Present.
Humanities 1A-1B. World Literature.
Music 135A-135B-135C. History of Opera.

ZOOLOGY

see Department of Biology

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NOTE: For key to symbols, see pages 65 and 66

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